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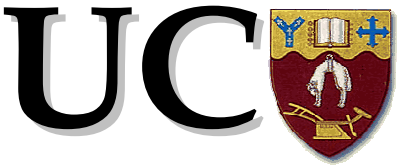
A Descriptive Analysis of a Trial: the InterRAI Home Care Assessment Process, the CDHB Pilot

A report in part contribution to a

Dissertation in Health Sciences

By

Julenne Bridget Louise Gordon



UNIVERSITY OF CANTERBURY

Te Whare Wānanga o Waitaha

CHRISTCHURCH NEW ZEALAND

University of Canterbury

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Abbreviations Used:

ACC: Accident and Compensation Corporation

ADL: Activities of Daily Living

CAPs: Client Assessment Protocols

CCDHB: Capital and Coast District Health Board

CDHB: Christchurch District Health Board

CEO: Chief Executive Officer

COSE: Co-ordinator for Services of the Elderly

DF: Degrees of Freedom

DHBNZ: District Health Boards of New Zealand

DHBs: District Health Boards

ED: Emergency Department

EHR: Electronic Health Records

EPU: Elderly Person's Unit

GP: General Practitioners

IADL: Instruments of Activities of Daily Living

InterRAI: International Resident Home Assessment Index

IV: Intravenous

MDS-HC: Minimum Data Set-Home Care

MoH: New Zealand Ministry of Health

NA: Not Applicable/Not Available

NASC: Needs Assessment and Service Co-ordination

NHI: National Health Index

NM: The Nurse Maude Association

NZGG: New Zealand Guidelines Group

NZMA: New Zealand Medical Association

P: Significant Probability

Pg: Pages

PHOs: Primary Health Care Organisations

Sample Size: n

SAS: Statistical Analysis Software

UK: United Kingdom

USA: United States of America

χ^2: Chi-Square

Abstract:

Introduction:

The International Resident Assessment Instrument (InterRAI) is a service and needs assessment tool that the Ministry of Health (MoH) was recommended to use by a report "Assessment Processes for Older People" in 2003, authored by the New Zealand Guidelines Group (NZGG). The MoH has implemented a New Zealand wide pilot in order to test the feasibility of InterRAI's use in the elderly population in New Zealand.

Aim:

The aim of the dissertation is to provide a descriptive analysis of data from the Canterbury District Health Board (CDHB) Pilot Trial of an InterRAI Homecare Assessment form as a means of assessing the care requirements of the elderly.

The data had been collected from 264 people on one, two or three different occasions/assessments. Elderly in the CDHB's population catchment's area were assessed between 2005 and 2006, with participants throughout Christchurch and surrounding localities, e.g. Rangiora and Kaiapoi. At the time of assessment approximately 80% were community dwelling and about 20% were inpatients. The data were collected from 264 people on one, two or three different assessment occasions.

Methods:

The CDHB pilot study data was present in two databases, which was transferred and reformatted from an Excel Spreadsheet format to a statistical programme format for analysis, SAS-9 (2004). The elderly were assessed initially once (called Time One) but some were assessed multiple times, i.e. all participants 264 were assessed once (Time One), 147 (56.7 %) were assessed twice, 65 (24.6%) three times and ten (3.6%) four times. The results presented here are mainly of the first assessment only, as this is the total sample.

Results and Discussion:

There are 178 females and 86 males, ranging in age from 64 - 95, all English speaking and mainly, New Zealanders, of which most are married or are widowed. The mean and median ages are around 80 years of age. Overall, the reason for movement of elderly, i.e. change in Residential Type was ADL Decline. There was also some correlation with elderly person's home environment. Possibly the only reason for a non-routine visit to hospital for an elderly person was that the person was alone i.e. no other means of help was available to them. The

lack of secondary helpers for the elderly was also important in both elderly person's movement and non-routine visits to hospital.

Conclusions:

The results have provided new information for the CDHB. However, more work is required, such as the ethnicity, age–gender range and service use. The CDHB are planning to implement the InterRAI assessment process, into the CDHB's service delivery, for the elderly population, in Canterbury.

Recommendations:

Some more time dependent data needs to be analysed i.e. trend analysis across assessments. Further research could focus on two categories, disease coding and medicine usage.

Acknowledgements:

I wish to thank the contribution to this report from my supervisor Dr. Raymond Kirk, and the other members of the supervisory team Brigette Larkins and Kaye Gilhooley from the Elderly Person's Unit of the CDHB.

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Thanks also go to family and friends for putting up with late nights and the many, many queries and hassles, while writing this thesis.

Descriptive Analysis of a Trial: the InterRAI Home Care Assessment Process, CDHB Pilot

Chapter 1. Introduction:

The New Zealand population is ageing as the resulting 'baby boom' of the 1950's to 1960's reach retirement age and beyond. The bulk of these 'baby boomers' will reach retirement age in 2012, (NZGG, 2003). As the New Zealand population ages, we will need strategies and assessments in order to cope with the needs of the large numbers of elderly and to ensure the best use of limited resources and services is achieved. These strategies and assessments, planning and preparation for these elderly will need to be addressed. These include the implementation of Electronic Health Records (EHR) and an electronic assessment process, such as the InterRAI, are examples of measures that are currently underway to address this need.

The InterRAI is an assessment process that aims to provide a snapshot of the elderly in New Zealand (e.g. demographics) and evaluate the health care services they require/need. This research is on InterRAI in New Zealand, specifically called the InterRAI Home Care Assessment Process CDHB Pilot. It was a pilot project instigated by the CDHB after the MoH received a recommendation from the NZGG that the InterRAI was the right assessment method to use for the elderly population in New Zealand ('Assessment Processes for Older People' in a 2003 Report to the MoH, NZGG 2003).

There were five District Health Boards (DHBs) across New Zealand who took part in the pilot trial of InterRAI specifically using the Minimum Data Set – Home Care (MDS-HC) assessments, they were: Waikato DHB, Hutt Valley DHB, Capital and Coast DHB (CCDHB), Canterbury DHB, and Bay of Plenty DHB.

The NZGG, also looked at the other assessment tools of: Contexio–Geriatric Assessment Wizard, EASY-Care; CANE–Camberwell Assessment of Need for the Elderly 75+ Health Assessment, CANE–Short; and FACE–Core Assessment and Outcomes Package for Older People, FACE-Triage, (Martin G. and Martin I., 2003). They were assessed on reliability, validity, cultural sensitivity, usability, assessment information sources, professional support outputs, domain coverage, modifiability, and training and software support, (Martin G. and Martin I., 2003). After critical evaluation of these different assessment processes, the NZGG recommended the InterRAI-HC assessment, as an applicable and New Zealand wide standard that should be applied to assess the needs of the elderly.

1.1 InterRAI History and International Implementation:

There are InterRAI assessment protocols being used in about 22 countries such as Canada, United States, United Kingdom, Sweden, Australia, Japan, Iceland and the Netherlands (Millbank Memorial Fund, 2003).

The USA Federal Department of Veteran Affairs (Hawes C., et. al. 2007) for rest home care in both their own-services and contracted-out services are using InterRAI. They are now looking to use InterRAI-HC to help assess veteran's needs in home settings, (Hawes C., *et al.* 2007).

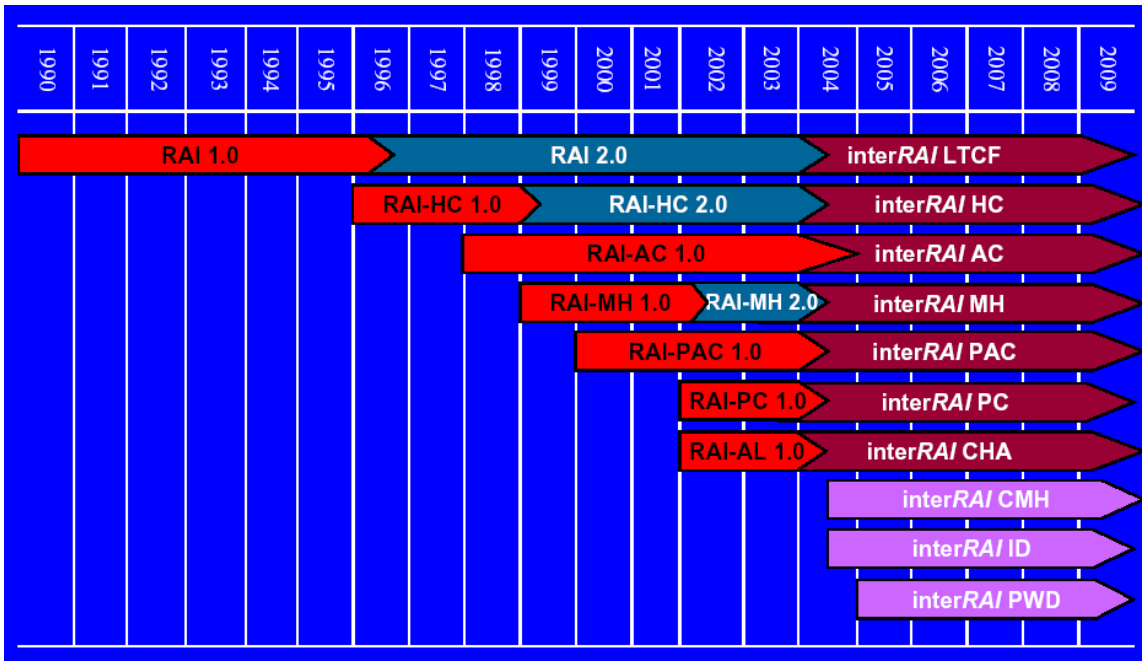


Figure 1.1: Time line of InterRAI assessments (Morris J., 2007).

The above figure shows that many InterRAI versions have been developed since 1996 (i.e. Rest Home Assessment), there are now versions for example Home Care, Palliative and Post-Acute Care services. The InterRAI-Home Care assessment was developed in 1996, and the InterRAI-HC 2.0 version (Hirdes J. P., *et al.* 2000) is the version that was trialled in the CDHB pilot, along with a New Zealand version of the assessment form (Refer to Appendix D, pg 141).

1.2 InterRAI in New Zealand and Overview of CDHB trial:

The InterRAI trial was instigated by the CDHB, Elderly Service Persons Unit and was run between 2005 and 2006. There were eight assessors for the pilot in the CDHB. One assessor from Nurse Maude Association only managed 15 assessments, with no follow up assessments

due to severe time constraints (one of the elderly persons, pulled out of the pilot project), (Billante V. M., 2007).

The New Zealand health related legislation involves: the Privacy Act 1993, the Human Rights Act, the New Zealand Public Health and Disability Act 2000, the 35 health-related strategies (New Zealand Health Strategy, 2001), such as the New Zealand Positively Ageing Strategy and the New Zealand Primary Health Care Strategy, Health Information Privacy Code 1994 and the Code of Health and Disability Services Consumers Rights 1996. With oversight from the: Minister of Health, the Privacy Commissioner, and the Health and Disability Commissioner, (NZGG, 2003). The InterRAI assessment process needs to comply within the above governmental health acts and polices.

The 30 Client Assessment Protocols (CAPs) used in the MDS-HC assessment involve a wide range of areas, such as pain, behaviour, palliative care, vision and health promotion (Hirdes J. P., *et al*., 2000). The CAPs were developed and revised by teams of clinicians and researchers, over several InterRAI versions, to give reliability and agreement of the definitions of the CAPSs, (Hirdes J. P**.**, *et al*., 2000). Refer to Appendices A and D, pgs 102 and 139 respectively for the 30 CAPs and MDS-HC assessment questionnaire. Assessors, usually with the participant in their own home environment, assessed the CAPs, to give a comprehensive assessment of the participant and appropriate care plan.

New Zealand has an ageing population in which the quality and quantity of service/care needs to be known. At the moment records are paper based, therefore there is a need to move to EHR. This should improve health outcomes for the elderly population in New Zealand, by having for example, rest home referrals that are required/needed by the elderly person.

The CDHB's Older Person's Health Strategy, states *"People's need for services is not related so much to their age per se as to chronic illness and disability and to the last year of life"*, (Wainwright T., 2005). Therefore, it is necessary to have an assessment that can be adaptable to different needs and services required by the elderly.

Timeline of InterRAI in New Zealand:

The InterRAI was introduced into New Zealand as follows:

2003

- NZGG Assessment Guidelines for Older People: Strongly supported investigation of the InterRAI Assessment tool
- Review of the Tools (MoH): Very strongly supported the InterRAI assessment tool

2003/4

- MoH, DHB, Accident and Compensation Corporation (ACC) working party: How could it be approached?

2004

- The five DHB 'pilots' initiated: What is InterRAI? How could it be used? What can we learn?

2005

- DHB, Chief Executive Officers (CEOs), approved use of 'pilots' to help inform decision for use of InterRAI across New Zealand (report back 2007 – no other tool is being investigated)
- MoH commissions Auckland University to describe the 'experience' of the five DHBs: InterRAI as 'national tool' gains momentum

2005/6

- MoH ISSP for Older People - work stream three: Other DHBs start to initiate InterRAI 'pilots'

2006

- Minister's Letter of Expectations - MoH contracts DHBNZ to develop national rollout business case

2007

- ACC requests DHB interest in piloting InterRAI: Seven respond; CCDHB & CDHB chosen to pilot
- Budget 2007: $7.5 million over three years for capital – funding not released
- Three drafts of Business Case; extensive DHB & MoH consultation; DHB, CEO support; MoH requested to clarify views

(Donaldson J., 2007).

1.3 New Zealand Demographic Profile:

The following demographic factors were assessed: ethnicity, age, gender, martial status, and household composition and the number of carers for providers of services required. (Refer to Discussion, Section 4.1, pg 83).

There are 13.9% of the population aged 65 years and over in the Canterbury Region, compared with 12.3% of the total New Zealand population (New Zealand Statistics Department, 2008). There is 3.3% of Maori ethnicity, who are aged 65 years and over, in the Canterbury Region, compared with 4.1% of New Zealand's total Maori population that is aged over 65 years.

Overall there are 32.7% of people aged 15 years and over living in Canterbury Region that have never married, 49.4% are married, and 18.0% are separated, divorced or widowed. There are 27.3% of people aged 15 years and over who have never been married but live with a partner, in the Canterbury Region. This is illustrated in Figure 1.2, where marital status for both the Canterbury region and New Zealand as a whole can be seen.

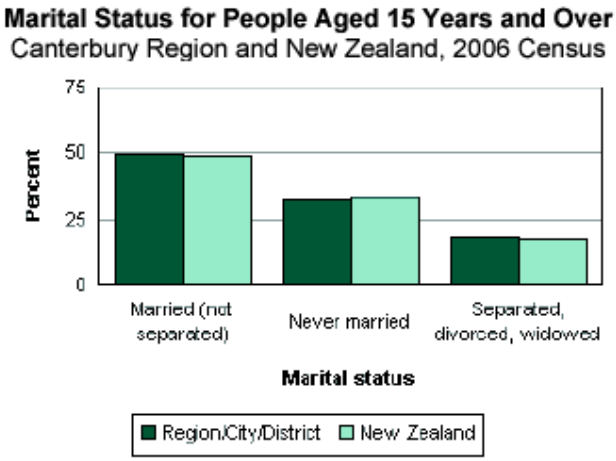


Figure 1.2: Martial Status in Canterbury and New Zealand, (New Zealand Statistics Department, 2008).

One family households make up 68.6% of all households in the Canterbury Region, where as for New Zealand as a whole, the one family household makes up 69.1% of all households. There are 48,252 people (24.4%), who live in one-person households in the Canterbury Region and one-person households make up 23.0% of all households throughout New Zealand. The average household size in the Canterbury Region is 2.5 people, compared with an average of 2.7 people for New Zealand, (New Zealand Statistics Department, 2008). This is illustrated in Figure 1.3, where household composition for both the Canterbury region and New Zealand as a whole can be seen.

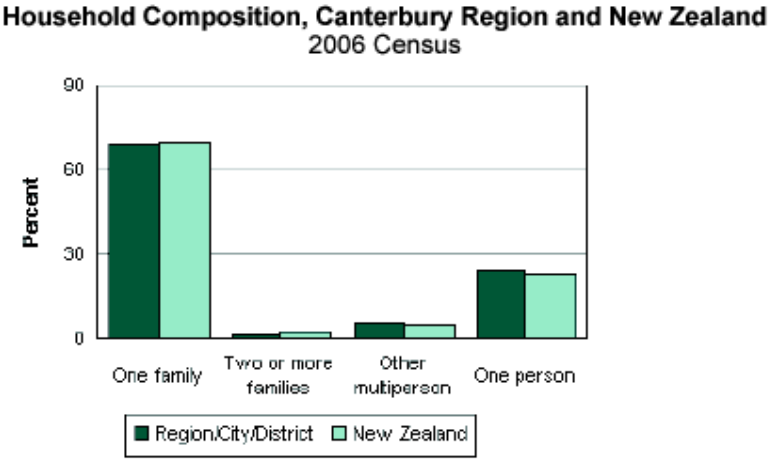


Figure 1.3: Household Composition in Canterbury and New Zealand (New Zealand Statistics Department, 2008).

In This Report:

This report focuses on the CDHB pilot trial of the InterRAI assessment tool.

There were 264 people (from now on called participants) in the CDHB pilot trial of the MDS-HC assessments. They were from Christchurch, and surrounding towns and localities such as Kaiapoi and Pines Beach. At the time of assessment, approximately 80% of participants were community dwelling and about 20% were inpatients. Participants were assessed because they were in Hospital, it was related to ACC funding/services or required increased care and hence need re-assessment.

In the Canterbury area, there are many care and service providers for the CDHB, involving the elderly, such as 'Meals on Wheels', Age Concern, Nurse Maude Association and District Nurses.

The number of carers and service providers that will be needed needs to be known more accurately. However, one of the reasons for using this InterRAI MDS-HC assessment is that it moves away from paper based health records to electronic records.

The below diagram (Figure 1.4), shows the area of coverage for the use, that the InterRAI assessment tool will be used in the CDHB area, and the governmental and non-governmental health providers and services for the elderly.

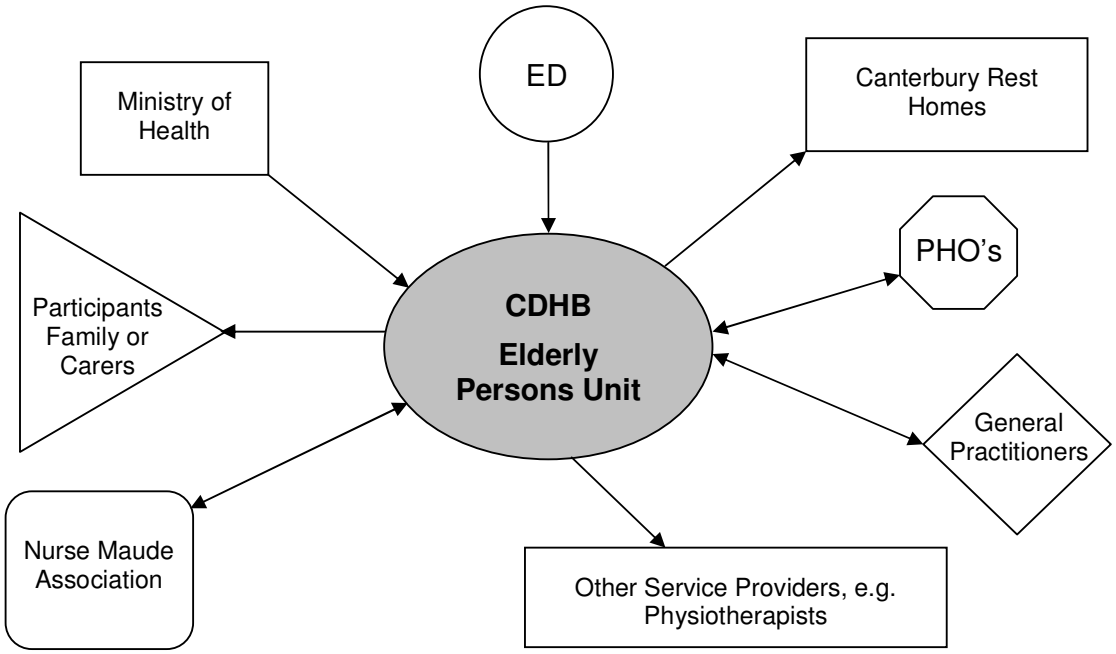


Figure 1.4: Elderly Person Service Provision in the CDHB Area.

In Summary:

The New Zealand Medical Association (NZMA) in their Position Statement on Care of Older People, (NZMA, 2007), recommended the following:

> "Residents entering an Aged Care Facility should have a baseline evaluation, completed within 10 (*ten*) days of their admission, of their physical, medical and psycho-social needs, and a detailed review of all medications, prescription, non-prescription, herbal and other remedies, completed by a qualified general practitioner *(GP)* or other medical practitioner experienced in the care of older adults. This culturally sensitive evaluation should be the basis for the development of a care plan that indicates resident physical and psycho-social needs along with resident preferences for treatment and strategies for meeting identified needs. This care plan should be available to the resident and to the Aged Care Facility staff. The Aged Care Facility should clearly indicate, preferably prior to admission, the specific elements of the care plan that the Aged Care Facility will meet and is willing to accommodate as well as the responsibility of the resident/family".

This would be consistent with the recommendations of the NZGG report. Therefore, the InterRAI assessment should be adopted as soon as possible throughout New Zealand for homecare services, rest homes and palliative care, to achieve the NZMA position statement.

1.4 Aims:

1.4.1 Overall InterRAI Aims:

The aim for InterRAI in the New Zealand Health System is to provide a consistent and clearer picture of the elderly in New Zealand and the health care services they require or need.

1.4.2 Dissertation Project Aims:

The data from the InterRAI Homecare Assessment Process CDHB Pilot was collected and then collated into one data file, but no analysis of the data had been carried out to date. The main aim of this report is to carry out a descriptive analysis of the data collected in the InterRAI Homecare Assessment Process CHDB Pilot.

Further Aims were:

a. A literature summary of the InterRAI Home Care Assessment Process,

b. A comparison of the data from the CDHB Pilot, over the Time One, Two and Three MDS-HC Assessments,

c. A comparison of the 264 participants assessed in this CDHB pilot with the general elderly population in Canterbury or New Zealand.

Chapter 2. Methods:

Two hundred and sixty four (264) people (from now on called participants) took part in the CDHB pilot trial of MDS-HC assessments, of which about 175 were assessed more than once, at zero, two, six and twelve month intervals. Of these participants; 50 participants were from the Studentship Community Therapy Services; 15 from Burwood Hospital (as the participants were pre-operation); ten from the Nurse Maude Association and the rest (i.e. 189 participants) were Needs Assessment and Service Co-ordination (NASC) clients[1]. At the time of assessment approximately 80% of participants were community dwelling and about 20% were inpatients. That is, participants were assessed because; they were in Hospital, it was related to ACC funding/services or required increased care and hence need re-assessment. The participants were from Christchurch, and surrounding towns and localities such as Kaiapoi and Pines Beach.

Data were collected on an Excel spreadsheet and were mainly recorded in numeric or an alpha format. The data were collated from two databases, an Excel (Microsoft XP) Spreadsheet file and was downloaded into the SAS Version 9 (2004) statistical data processing programme. The data were analysed using these statistical programmes because, the original data file of the questionnaire responses used an Excel file and SAS was used as it allowed the huge amount of data to be collated and analysed.

There were 264 people in the pilot trial of MDS-HC assessments, 147 were assessed twice, 65 three times, 10 four times and one person was assessed five times and one person six times. There were 388 variables assessed, some were collected variables and others were constructed variables for the analysis, for example age can be calculated from birth minus date of assessment. The data were then divided into Time One series data, Time Two series data and Time Three series data, for all questions excluding the questions regarding medicines and ICD-10 disease scores (refer to Appendix D, pg 141). The further Time series data (Assessments) were excluded due to the small numbers of participants being assessed more than three times.

[1] NASC clients have a long standing disability which is due to: a mental health problem; a physical health problem; and 'old age'. At EPU the NASC clients are just those whose needs are due to a disabling condition associated with 'old age', that is the majority of clients are over 65 years although a small number are 'close in age and interest' meaning that they are nearing 65 but already have a condition associated with 'old age', personal communication with Kaye Gilhooley, 2008.

The Time One Series data was analysed first (i.e. Section 2.1, pg 10) as this gave us one assessment from all the 264 participants and a baseline from which to add data and a baseline in terms of the participants assessment as well. The Elderly Person's Unit (EPU) at the CDHB wanted the questions in Sections 2.2, 2.3 and 2.4 (pgs 10-11) answered, to see what if any relationships existed. The cross-tabulations i.e. the questions in Section 2.5, (pg 12), were carried out to see whether any significant relationships existed in these and between these CAPs and the participant's assessment.

The Analysis focused on Six Main Topics (Sections 2.1 - 2.6), as listed below:

The choice of queries reported below was reflect some applied examples of the kind of rich information that could be utilised from the dataset. Many of CDHB Elderly Person Unit's staff are interested in maintaining elderly people in their own homes, so any change in place of domicile is an important item to investigate.

2.1 A profile of the 264 participants was created using data from the first assessment (Time One Series):

This was for all questions (Appendix D, pg 141) for example Age, Gender, Ethnicity and Domicile. Subsequently the following were also calculated: a. a comparison of Age, Gender at Time One, and b. the number of hours of help by Informal Caregivers was calculated over seven days. Tables and graphs were constructed to illustrate the results, with results presented in Sections 3.1-3.64, (pgs 13-74).

2.2 Why are participants having the Non-Routine Visits to Hospital? Using the 264 participants, the Time One Series:

This Section is presented in the Results Section 3.65 (pg 74). Note: only significant results are reported and of those only results with enough numbers i.e. treat significance with caution due to small counts, were listed.

What variables potentially caused the Non-Routine Visits to Hospital in the last 90 days or since the last assessment? More specifically the following were explored:

a. The relationships between hospital admissions and demographic factors.

b. The relationships between hospital admissions (and demographic factors) and informal supports.

c. The relationships between hospital admissions (and demographic factors) and the Number of Medications used by participants.

d. The relationship between Gender, Age, Ethnicity, Marital Status, and Language (English or Maori).

e. Non-Routine Visits to Hospital in the last 90 days or since last assessment against Gender, Age, Ethnicity, Marital Status, and Language (English or Maori) were explored and then followed by the variable of Informal Helpers.

f. Then another variable, the Number of Medications required, was explored.

2.3 From the group that have been reassessed once - Time One and Two series data only (i.e. 42 participants):

This Section is presented in the Results Section 3.66 (pg 75). Note: only significant results are reported and of those only results with enough numbers i.e. treat significance with caution due to small counts, were listed.

2.3.1 What are the factors involved in changing Residential Type between assessments? More specifically the following questions were explored:

a. If there was a change in Residential Type what is the profile of these participants (i.e. Gender, Age, Ethnicity, Marital Status, and Language (English or Maori)), and is there a relationship with the demographic factors.

b. What is the relationship of Residential Type with Informal Primary and Secondary Helpers, both the living arrangements and the relationship with the participant?

c. What is the relationship of Residential Type with Pain and reason for Falls?

d. What is the relationship of Residential Type with Activities of Daily Living (ADL) Decline?

e. What is the relationship of Residential Type with Bladder and Bowel?

2.3.2 If Residential Type has changed what else has changed?

a. Has there been a change in Primary or Secondary helpers?

b. Has there been a change in Bladder and Bowel Continence?

c. Has there been a change in decision making?

d. Has there been a change in the Home Environment, e.g. home heating, access to the home and an operational kitchen?

e. Has there been a change in Pressure Ulcers?

2.4 The Cross-Tabulations below were carried out (on Time One – the 264 participants):

The cross-tabulations are included within the Results Section (3.1-3.64), related to the CAPs, i.e. Informal Helpers/Caregivers, Instrumental Activities of Daily Living (IADL), Pain, and Danger and Frequency of Falls. Note: only significant results are reported and of those only

results with enough numbers i.e. treat significance with caution due to small counts, were listed.

- Section G, Primary helper and Secondary helper - cross-tabulations of helpers with participants against living arrangement and relationship (Section 3.23, pg 22).
- Section H, IADL Tasks - cross-tabulations (A) Performance and (B) Difficulty for each IADL task i.e. a. Meal Preparation, b. Ordinary Housework, c. Managing Finances, d. Managing Medications, e. Phone Use, f. Shopping, and g. Transportation, (Section 3.28, pg 31).
- Section K, Pain - cross-tabulations all four i.e. Pain Frequency, and Pain Intensity and Pain Sites and Pain Medication. All combinations were cross-tabulated as well as a three way cross-tabulation of Pain Frequency, Pain Intensity and Pain Sites, controlling with pain frequency (Section 3.38, pg 49).
- Section K, Falls - cross-tabulations, i.e. both reasons for Falls and possibly Frequency of Falls, all combinations of these were cross-tabulated as well as a three way cross-tabulation of Unsteady Gait, Fear of Falls and Frequency of Falls, controlling with Unsteady Gait, (Section 3.39, pg 54).

2.5 The participants that were assessed more than once were examined, i.e. a profile was explored:

This Section is presented in the Results Section 3.67, (pg 79).

a. The Time Two (participants assessed twice) – the 147 participants demographics and Domiciles.

b. The Time Three (participants assessed three times) – the demographics of the 65 participants.

2.6 Why are participants moving between Domiciles?

This Section is presented in the Results Section 3.68, (pg 82).

Of the 147 participants and the 65 participants that were assessed twice and three times respectively (see Sections 2.5 and 3.64, pg 74)), have they moved Domicile, between assessments?

Chapter 3. Results:

3.0 Results - Time One Series:

There were 264 participants in the CDHB pilot trial of MDS-HC assessments, 147 were assessed twice, 65 three times, 10 four times and one participant each for five times and six assessment times. There were about 400 variables assessed, for example age can be calculated as (birth - date of the assessment) to give a constructed age value.

A SAS data set was established, so any Cross-tabulations can be assessed at any of the Time Series requested. The results presented below (Sections 3.1-3.64, pgs 13-74) are of the first time series (called Time One) and represents Methods Section 2.1 (pg 10) and all of the participants. The Methods Section 2.4, (pg 11), has been included in the relevant CAP in the Sections 3.1-3.64, they are Informal Helpers/Caregivers, IADL, Pain, and Danger and Frequency of Falls. (Refer to Discussion, Sections 4.2-4.13, pgs 86-94, for summary of results).

For the definitions of the CAPs, please refer to the InterRAI Code Book, version 2.0, (Hirdes J. P., *et. al.* 2000), which can be down loaded from CIHI/publications, http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=pub_e (Sourced on the 28/03/2008).

3.1 Age and Gender of Participants:

The Age and Gender distributions in the InterRAI Homecare Assessment Process CDHB pilot are presented below in Figure 3.1. The ages range from 64 to 95 for females, which represented double the number of males, who ranged from 67 to 95. Interestingly there were a greater total number of both males and females at 77 and 80 years of age, very few 69 year olds, and note; the jump in numbers for 95 years as well. There were 86 (33.5%) male participants and 178 (69.5%) female participants in this pilot. The mean and median was 80 years of age.

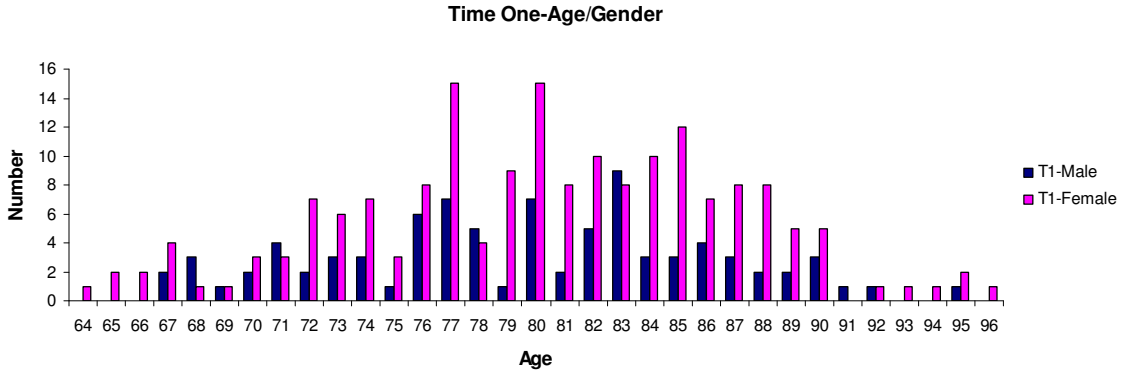


Figure 3.1: The Age and Gender of the 264 participants.

For 29 (11%) participants, birth dates that were estimated at time of assessment, i.e. 235 (89%) participants birthdates were not estimated.

3.2 Domicile/Residence:

There were 75 (28.5%) assessments undertaken in Rangiora and 46 (17.5%) in Kaiapoi of the 264 participants, and these presented a large portion along with the Not Available (NA), 48 (18%) recorded as can be seen in Figure 3.2.

Only seven participants moved between assessments, see Section 3.66 (pg 75), Section 3.68 (pg 82), and Table 3.7, (pg 82).

3.3 Ethnicity:

Eleven (4%) elderly identified as European, 226 (85.5%) as NZ-European, 24 (9%) as Other European, two (1%) as NZ Maori and one (0.5%) as Fijian. That is 99% of the participants were European or of European descent and is illustrated in Figure 3.3.

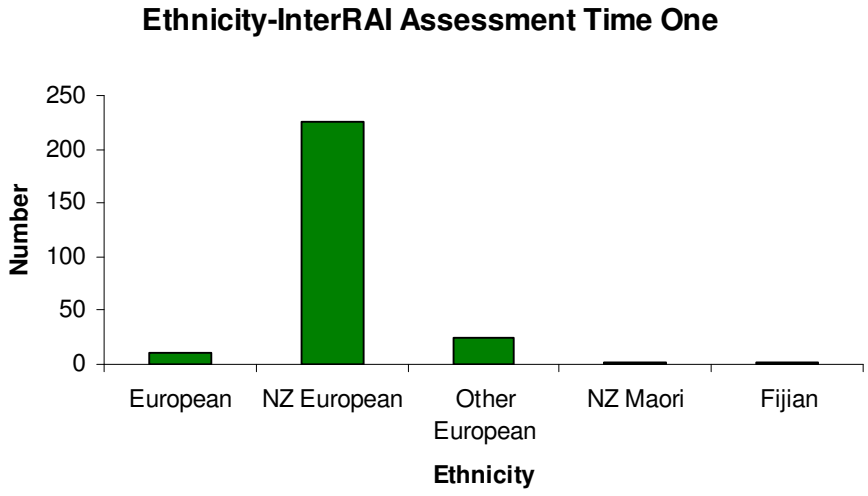


Figure 3.3: Ethnicity of the 264 participants.

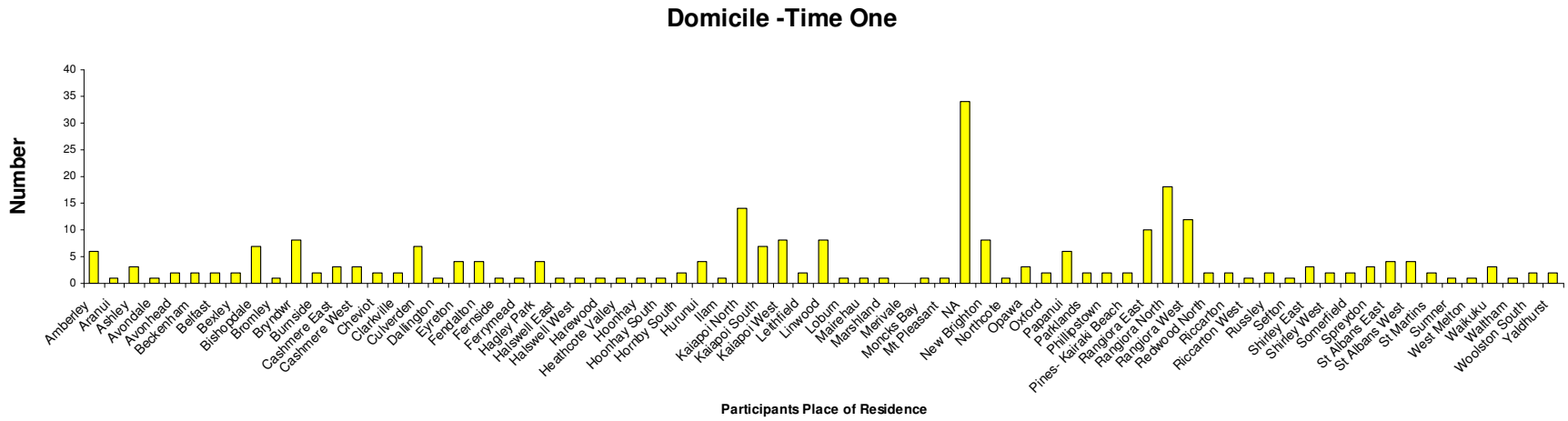


Figure 3.2: Locations in Christchurch and Canterbury for the 264 participants.

3.4 New Zealand Citizen Status:

There are 152 (57.5%) New Zealand citizens or residents i.e. 112 (42.5%) are not New Zealand citizens or residents, of which four (1.5%) are work permit holders, i.e. 260 (98.5%) participants do not hold a work permit. All codes that apply for eligibility for publicly Funded Health Services were checked, (Note: possibly a coding error could have occurred, regarding the work permits).

3.5 Language:

All 264 (100%) participants have English as their primary language, but one (0.5%) interpreter was needed i.e. 263 (99.5%) participants do not require an interpreter (Note; this one participant was not the one hearing impaired participant).

3.6 Marital Status:

There are 19 (7%) participants, who have never married, 114 (43%) participants are married and 114 (43%) are widowed. In addition, one (0.5%) person is separated, 14 (5%) are divorced and two (1%) are in another relationship.

The question below was coded for responsibility/advanced directives (Note: there may be some coding errors). None of the 264 participants has an enduring power of attorney, or non-resuscitation order.

3.7 Assessment Referral:

There are seven possible ways of being referred; 108 (41%) participants, were referred for community support needs assessment, 16 (6%) were referred for community clinical assessment, 48 (18%) were referred for rehabilitation service in-patient, nine (3.5%) were referred for support services review and 83 (31.5%) were for other reasons. Note; there were no acute service in-patient or rehabilitation service community assessed referred participants.

3.8 Care Goals:

This question was coded for client/family understanding of goals of care.

There are 13 (5%) participants requiring assessment or care by registered nurses, i.e. 251 (95%) do not require this; eight (3%) required monitoring to avoid clinical complications, i.e. 256 (97%) do not need monitoring; 53 (20%) required rehabilitation, i.e. 211 (80%) do not need rehabilitation; no participants required education for themselves or their family; 12 (4.5%) required respite care, i.e. 252 (95.5%) do not require this; and one (0.5%) participant required palliative care, i.e. 263 (99.5%) do not need palliative care.

Of the participants, 214 (81%) remained at home, (i.e. 50 (19%) did remain at home), and seven (2.5%) required facility placement, (i.e. 257 (97.5%) do not require facility placement).

3.9 Hospital Visits:

At the time of assessment or in the last 180 days: 90 (34%) participants were in hospital, 92 (35%) had not been in hospital in the last 180 days, eight (3%) were in hospital in the last week, four (1.5%) in the last eight to fourteen days, 16 (6%) in the last 15 to 30 days, and 54 (20.5%) between 30 days and 180 days. This is illustrated in Figure 3.4.

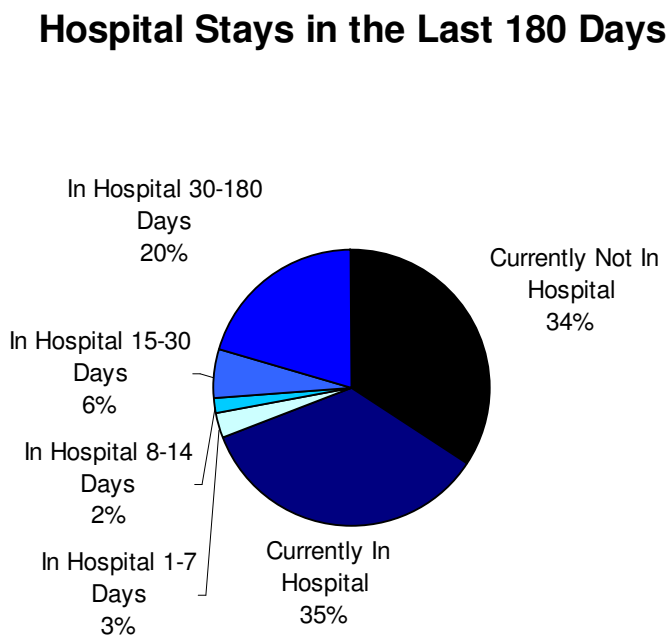


Figure 3.4: The number of Hospital Stays by the 264 participants.

3.10 Participant Residing:

Most of the participants lived at home, with or without additional care. There are 95 (36%) participants at home without home care services and 162 (62%) at home with home care services. Five (2%) participants were living in a board and care/assisted living or group home and two (1%) in a residential care facility. (Note: no participants were in other types of residence).

Of the 264 participants; 130 (49%) were living alone, 99 (37.5%) were living with their spouse only, eight (3%) were living with their spouse and others, 19 (7%) were living with

their child, six (2%) lived with others that were not their spouse or child and two (1%) lived in a group setting with non-relatives.

In addition, 24 (9%) participants have resided in a residential care facility in the past five years, i.e. 240 (91%) had not resided in a residential care facility.

Only 31 (12%) participants had moved to their current residence in the last two years, but 233 (88%) had not moved in the last two years.

Of the 147 (56%) participants that underwent a second assessment, 42 (16%) participants changed Residential Type between the assessments.

3.11 Reason for InterRAI Assessment:

The assessment type was an initial assessment for 195 (74%) participants; one (0.5%) participant was a follow up assessment, another one (0.5%) participant was for a routine assessment at fixed intervals, and another one (0.5%) participant was for a review from a return at hospital and 66 (25%) participants were from a discharge or transfer from a health service. There were three other reasons for assessment that no participants were and were not seen: either as a prior (within 30 days) review for discharge from the programme, or a change in status or other unknown reason.

3.12 Memory:

The questions below were coded for recall of what was learned or known, by the participants.

The short term memory of participants in answer to a specific question was O.K.; in 176 (67%) participants, but not in 88 (33%) participants. The procedural memory (can perform multitask steps) of participants was found to be O.K.; in 251 (95%) participants, but not in 13 (5%) participants.

The cognitive skills for decision making of participants were found to be: in 215 (81.5%) independent, i.e. decisions were reasonable, safe and consistent; in 18 (7%) were moderately independent, i.e. new situations difficult; in 20 (7.5%) were minimally impaired, i.e. in some situations require help as decisions poor or unsafe; in nine (3%) were moderately impaired, i.e. decisions always poor/unsafe and requires supervision at all times; and two (1%) were severely impaired, i.e. rarely made any decisions. In 235 (89%) participants cognitive skills were no worse than 90 days ago (or since the last assessment if less than 90 days), i.e. in 29 (11%) they were worse.

The mental status of the participants over the last seven days was unchanged; in 255 (97%) participants, but nine (3%) had a sudden change in mental function i.e. experienced delirium, such as paying attention, awareness of surroundings and being coherent. In the last

90 days (or since last assessment if less than 90 days); 252 (95.5%) participants were not a danger to themselves or others; but 12 (4.5%) were agitated or disorientated as to become a danger to themselves or others.

3.13 Hearing:

There are 153 (58%) participants with normal hearing, i.e. heard adequately (with hearing aid if needed). Some of the participants, 76 (29%) had minimal hearing impairment, i.e. had difficulty in noisy settings. But 34 (13%) participants could only hear in special circumstances, i.e. speaker speaks, clearly, slowly and directly to participants. There was also one (0.5%) participant who was highly impaired, with basically no hearing.

3.14 Communication Expression:

The participants were assessed by expressing information content – 'however able'. There were 235 (89%) participants are understood, i.e. were able to express ideas effectively. Some participants, 23 (9%) usually understood and just require time to find words or finish thoughts. Other participants, five (2%) often understood but required help in finishing thought or prompting. One (0.5%) participant sometimes understood, i.e. requests; no participant rarely or never understood.

3.15 Communication Comprehension:

The participants were assessed by understanding verbal information content-however able. Of the 264 participants, 239 (90.5%) understand, i.e. have clear comprehension and 16 (6%) participants, usually understand, i.e. comprehends most of conversation, with some parts missed. There are six (3%) participants that often understand, i.e. they miss some of the conversation but with prompts can comprehend. Only three (1%) participants can sometimes understand with simple direct communication. None of the participants rarely or never understands.

3.16 Communication Changes:

Of the 264 participants, 243 (92%) had no change in communication in the last 90 days (or since last assessment if less than 90 days), i.e. 21 (8%) had worsened in the last 90 days.

3.17 Vision:

There were 216 (82%) participants with adequate vision, i.e. could see detail and read regular size print (in adequate light and with glasses if required). Those with impaired vision: 24 (9%) were impaired and could not see regular size print; 15 (6%) were moderately impaired, i.e. limited vision and could not read large print, but could identify objects; five (2%) were highly impaired, i.e. had trouble identifying objects but sees movement; and four (1.5%) were severely impaired, had no vision or only light, colours or shapes could be seen. Vision

impairment is presented in Figure 3.5, below. As can be seen 89% of participants had adequately or slightly impaired vision.

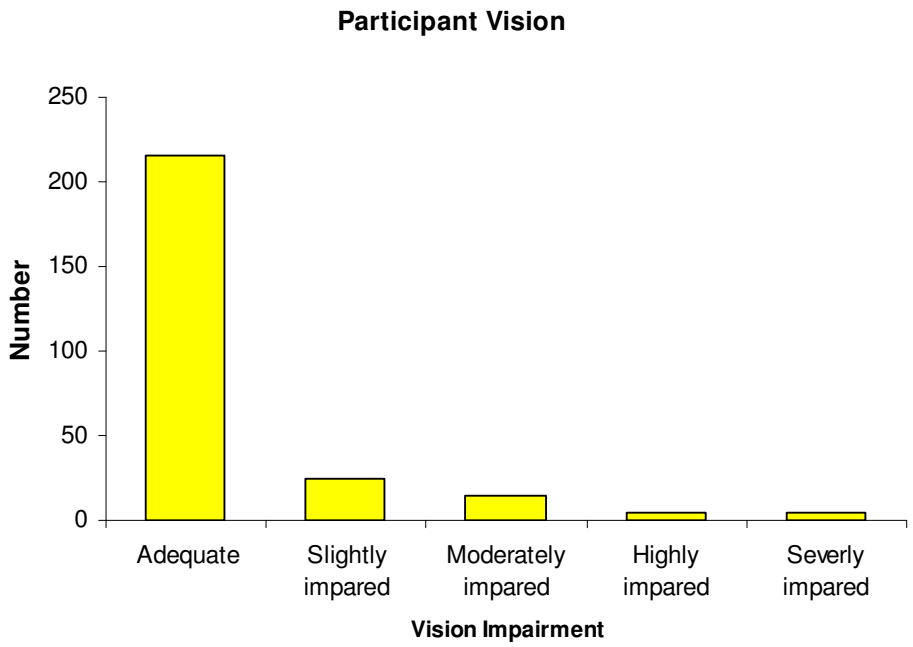


Figure 3.5: The 264 Participant's Visual Ability (with or without glasses).

Vision was impaired by cataracts, flashes of lights and halos in 18 (7%) participants and 246 (93%) had no such vision impairment.

Of the 264 participants; 225 (85%) had no change in vision in the last 90 days (or since last assessment if less than 90 days); but 39 (15%) had worse vision. That is, for approximately one in seven participants vision had deteriorated in the last 90 days or since the last assessment.

3.18 Current Depression or Sadness:

The below presentation of results of the assessment only considers the immediate three days before assessment, no symptoms meaning 'none' for the previous three days, 'sometimes' referring to one or two days of the three days and 'all the time' referring to on each of the previous three days and are from the general CDHB elderly population. The results below were also coded for observed indicators irrespective of the assumed cause.

There were 232 (88%) participants who had no symptoms of feeling sad or depressed, i.e. life not worth living; 18 (7%) felt like this sometimes; and 14 (5%) were like this all the time. Hence, one in 20 participants reported feeling 'sad or depressed' all of the time.

There were 246 (93%) participants with no reported symptoms of anger with others or self; 15 (6%) felt like this sometimes; and three (1%) were like this all the time. Hence, one in 100 participants reported being 'angry with themselves or others' all of the time.

There were 260 (98.5%) participants with no symptoms of unrealistic fears, e.g. left alone, two (1%) felt like this sometimes, and two (1%) were like this all the time. Hence, one in 100 participants reported having 'unrealistic fears' all of the time.

There were 260 (98.5%) participants with no symptoms of repetitive minor health complaints; four (1.5%) were like this sometimes; but none were constantly expressing this.

There were 260 (98%) participants with no symptoms of repetitive anxious complaints about normal activities e.g. meals, clothing; four (1.5%) were like this sometimes; but none were constantly expressing this.

There were 246 (93%) participants with no symptoms of depressed facial expressions e.g. furrowed brows; 15 (6%) were sometimes like this; and three (1%) were constantly like this.

There were 243 (92%) participants with no symptoms of recurrent crying or tearfulness; 12 (4.5%) had some symptoms; and nine (3%) were constantly like this.

There were 259 (98%) participants with no symptoms of with drawing from activities of interest; four (1.5%) had some symptoms; and one (0.5%) participant had constant symptoms.

There were 253 (96%) participants with no symptoms of reduced social interaction; five (2%) had some reduction; and six (2%) were constantly like this. Hence, one in 50 participants reported reduced 'social interaction' all of the time.

3.19 Mood Decline:

Of the 264 participants; 235 (89%) had no change in mood in the last 90 days (or since last assessment if less than 90 days); but 29 (11%) reported their mood had declined. Hence, one in nine participants reported that their mood changed in the last 90 days.

3.20 Current Behaviour:

The below results of assessment considers the immediate three days before assessment, with 'no symptoms' being none of the previous three days, 'sometimes but easily altered' and 'sometimes but not easily altered', being the response options.

There are 263 (99.5%) participants where there was no wandering i.e. there was no purpose, in one (0.5%) participant this occurred but it was easily altered and no participants where the wandering was not easily altered or occurred.

There were 263 (99.5%) participants that were not verbally abusive to others; one (0.5%) participant was but easily altered; and no participants that were abusive and could not be altered.

All 264 (100%) participants reported that they were not physically abusive to others.

All 264 (100%) participants reported no socially or behavioural symptoms such as sexual, disturbing others and self-abuse.

All 264 (100%) participants reported that they did not refuse care.

Of the 264 participants; 263 (99.5%) had no change in behaviour in the last 90 days (or since last assessment if less than 90 days); but for one (0.5%) participant their behaviour had declined or worsened.

3.21 Social Involvement:

Of the 264 participants; 250 (95%) were at ease interacting with others, but 14 (5%) were not at ease. Hence, one in 20 participants reported uneasiness in interactions with others.

There are 254 (96%) participants that do not openly express anger or conflict with friends and family; but ten (4%) do express such anger or conflict. Hence, one in 25 participants reported a decline in social activity in the last 90 days and this worried them.

Of the 264 participants: there were 179 (68%) participants with no decline in social activity in the last 90 days (or since last assessment if less than 90 days); there was a decline in 41 (15%) but they were unworried by the decline; and 44 (17%) had declined and were worried.

3.22 Isolation:

Of the 264 participants during the day: 78 (29.5%) were never or hardly ever alone; 42 (15.5%) were alone but for short periods (e.g. one hour); 122 (46%) were alone for long periods (e.g. all morning or afternoon); and 23 (9%) were alone all day.

There are 209 (79%) participants that do not feel lonely, but 55 (21%) reported feeling lonely. Hence, one in five participants reported feeling lonely.

3.23 Informal Helpers/Caregivers:

Of the 264 participants: 148 (56%) had a primary helper who lived with them: but in 112 (42.5%) their primary helper did not live with them, and four (1.5%) reported having no primary helpers.

Of the 264 participants: 39 (15%) had a secondary helper who lived with them; in 126 (48%) their secondary helper did not live with them; and 99 (37.5%) had no secondary helpers.

Both Primary and Secondary Helpers are illustrated in Figure 3.6 below, which shows that primary helpers are more likely, compared to secondary helpers, to live with the participant.

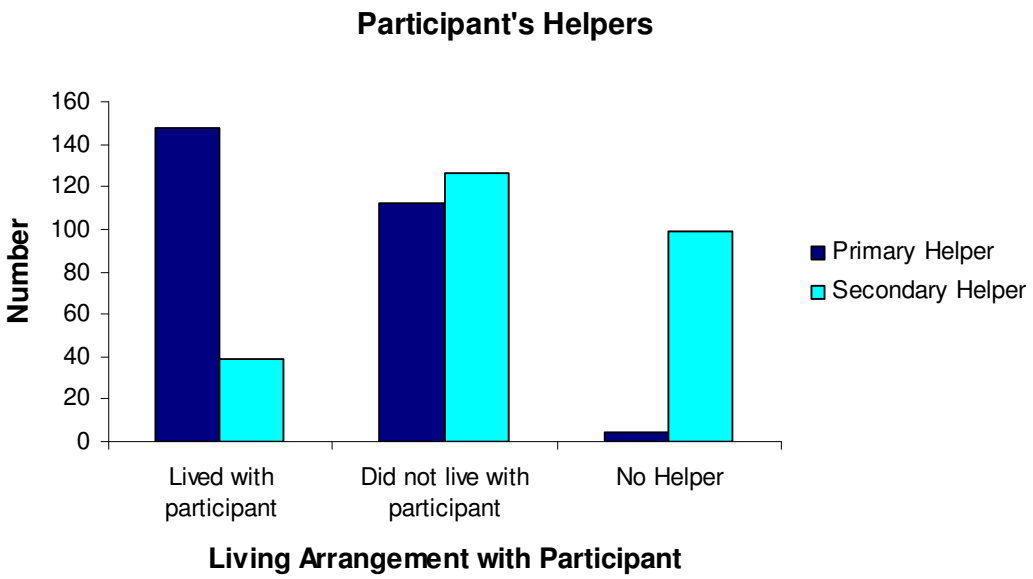


Figure 3.6: Informal Helpers and Living Arrangements with Participants.

In 119 (45%) cases, the primary helpers were the children or in-law children of participants; in 98 (37%) cases, the primary helper was the spouse of the participants; in 20 (7.5%) cases, the primary helper was another relative; and in 23 (9%) cases, the primary helper was a friend or neighbour of the participant, (Note; in four (1.5%) cases the participants had no helpers).

In 118 (45%) cases, the secondary helpers were the children or in-law children of participants; in four (1.5%) cases, the secondary helper was the spouse of the participants; in 14 (5%) cases, the secondary helper was another relative; and in 25 (9.5%) cases, the secondary helper was a friend or neighbour of the participant, (Note; there are 103 (39%) in which 99 cases the participants had no helpers).

The relationships of Primary and Secondary Helpers to participants are illustrated in Figure 3.7 below.

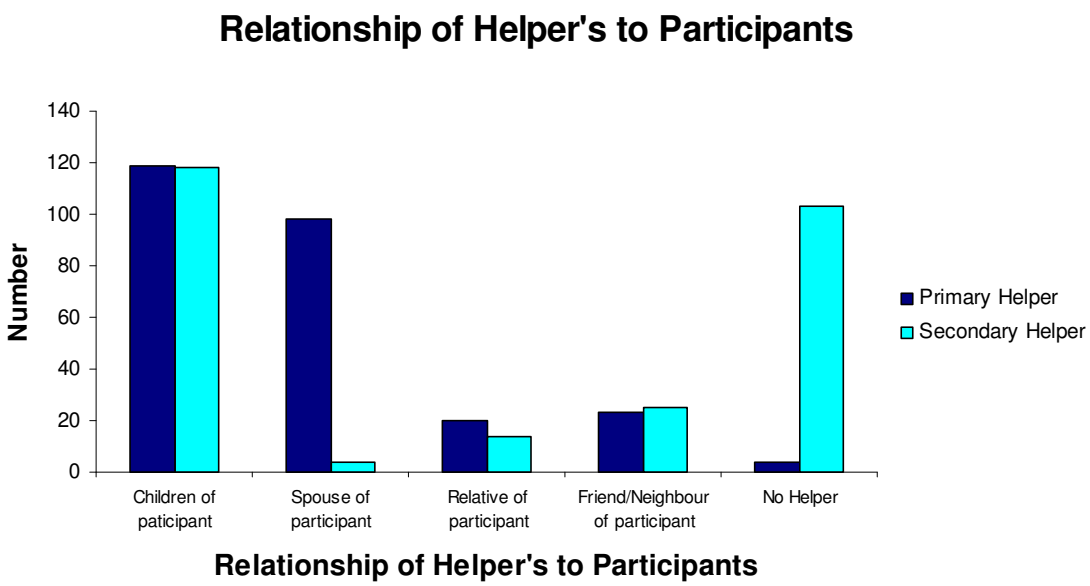


Figure 3.7: Informal Helpers and their Relationship with the Participants.

(Refer to Discussion, Section 4.4, pg 87, for summary of results).

Cross-Tabulations with Informal Caregivers:

There are five categories of Informal Caregivers of participants; children of participant, spouse of participant, relative of participant, friend/neighbour of participant, and no caregiver. These were cross-tabulated with the three categories of living arrangement with the participant; the informal caregiver lived with the participant, the informal caregiver did not live with the participant, and no caregiver.

The cross-tabulations for Primary Informal Caregivers, Residence versus Relationship with Participant were undertaken to explore relationships between these variables:

- for 40 (15%) the informal caregiver lived with the participant and is a child or child in-law of the participant, for 96 (36.5%) the informal caregiver lives with the participant and was a spouse of the participant, for seven (3%) the informal caregiver lives with the participant and was another member of the family, and for five (2%) the informal caregiver lives with the participant and was a friend or neighbour of the participant;
- for 79 (30%) the informal caregiver did not live with the participant and was a child or child in-law of the participant, for two (1%) the informal caregiver did not live with the participant and was a spouse of the participant, for 13 (5%) the informal caregiver did not live with the participant and was another member of the family,

and for 18 (7%) the informal caregiver did not live with the participant and was a friend or neighbour of the participant;

- and four (1.5%) had no such helper.

Statistics for the cross-tabulation of Primary Informal Caregivers, Residence versus Relationship with Participant; the Chi-Square (χ^2) = 109.2016, Degrees of Freedom (DF) = 3, a Significant Probability (P) < 0.0001, and the Sample Size (n) = 260.

The cross-tabulations for Secondary Informal Caregivers, Residence versus Relationship with Participant were undertaken to explore relationships between these variables:

- for 25 (9.5%) the informal caregiver lived with the participant and was a child or child in-law of the participant, for three (1%) the informal caregiver lived with the participant and was a spouse of the participant, for five (2%) the informal caregiver lived with the participant and was another member of the family, and for four (1.5%) the informal caregiver lived with the participant and was a friend or neighbour of the participant;
- for 93 (35%) the informal caregiver did not live with the participant and was a child or child in-law of the participant, for one (0.5%) participant, the informal caregiver did not live with the participant and was a spouse of the participant, for nine (3.5%) the informal caregiver did not live with the participant and was another member of the family, and for 21 (8%) the informal caregiver did not live with the participant and was a friend or neighbour of the participant;
- and 99 (37.5%) had no such helper.

The relationship between the variables of Secondary Informal Caregivers, Residence versus Relationship with Participant; the χ^2 = 8.3007, DF = 1, P = 0.0402, and n = 161. This was a statistically significant finding.

(For the full Tables and Cross-Tabulations above see Appendix B, pg 106).

3.24 Areas of Help Provided by Caregivers:

Of the 264 participants; in 254 (96%) cases, the primary caregiver provided advice and emotional support; in five (2%) cases, they did not provide advice and emotional support; and in five (2%) cases, the participants had no helpers.

Of the 264 participants; in 157 (59.5%) cases, the secondary caregiver provided advice and emotional support; in six (2%) cases, they did not provide advice and emotional support; and there were 101 (38%) in which 99 cases the participants had no helpers.

Of the 264 participants; in 214 (81%) cases, the primary caregiver provided IADL care, e.g. meals, housework and shopping; in 45 (17%) cases, they did not provide this help; and in five (2%) cases, the participants had no helpers.

Of the 264 participants; in 115 (43.5%) cases, the secondary caregiver provided IADL care, e.g. meals, housework and shopping; in 48 (18%) cases, they did not provide this help; and there were 101 (38%) in which 99 cases, the participants had no helpers.

Of the 264 participants; in 68 (26%) cases, the primary caregiver provided ADL care, e.g. eating, dressing and bathing; in 189 (71.5%) cases, they did not provide this help; and in seven (2.5%) cases, that information for this question was not recorded, of which four participants had no helpers.

Of the 264 participants; in 17 (6.5%) cases, the secondary caregiver provided ADL care, e.g. eating, dressing and bathing; in 145 (55%) cases, they did not provide this help; and there were 102 (38.5%) cases, that information for this question was not recorded in which 99 cases, the participants had no helpers.

The Type of Care Provided by Helpers is presented in Figure 3.8, below.

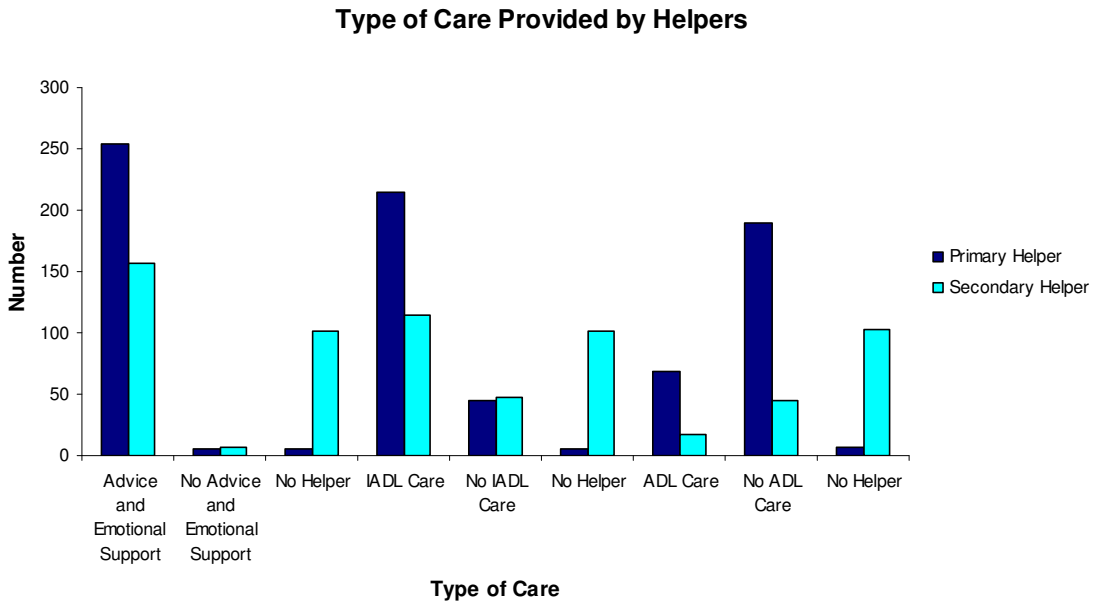


Figure 3.8: Type of Care provided by Primary and Secondary Helpers to Participants.

3.25 Additional Help if Required:

In 143 (54%) cases, the primary helpers could increase emotional help given by two hours a day; in 75 (28.5%) cases, the primary helper could increase emotional help given by one to two hours a day; in 40 (15%) cases, the primary helper could not help more; and in six (2%) cases the participants had no helpers.

In 48 (18%) cases, the secondary helpers could increase emotional help given by two hours a day; in 62 (23.5%) cases, the secondary helper could increase emotional help given by 1-2 hours a day; in 52 (20%) cases, the secondary helper could not help more; and there were 102 (38.5%) in which 99 cases the participants had no helpers.

In 108 (41%) cases, the primary helpers could increase IADL care given by two hours a day; in 64 (24%) cases, the primary helper could increase IADL care given by one to two hours a day; in 86 (32.5%) cases, the primary helper could not provide care; and in six (2%) cases, the participants had no helpers.

In 30 (11.5%) cases, the secondary helpers could increase IADL care given by two hours a day; in 45 (17%) cases, the secondary helper could increase IADL care given by one to two hours a day; in 87 (33%) cases, the secondary helper could not provide care; and there were 102 (38.5%) in which 99 cases, the participants had no helpers.

Of the 264 participants; in 89 (33.5%) cases, the primary helpers could increase ADL care given by two hours a day; in 43 (16%) cases, the primary helper could increase ADL care given by one to two hours a day; in 126 (48%) cases, the primary helper could not provide care; and in six (2%) cases, the participants had no helpers.

Of the 264 participants; in 24 (9%) cases, the secondary helpers could increase ADL care given by two hours a day; in 25 (9.5%) cases, the secondary helper could increase ADL care given by one to two hours a day; in 112 (42.5%) cases, the secondary helper could not provide care; and there were 103 (39%) cases, that information for this question was not recorded, in which 99 cases the participants had no helpers.

The Additional Help that Primary and Secondary Helpers might be able to provide is illustrated in Figure 3.9.

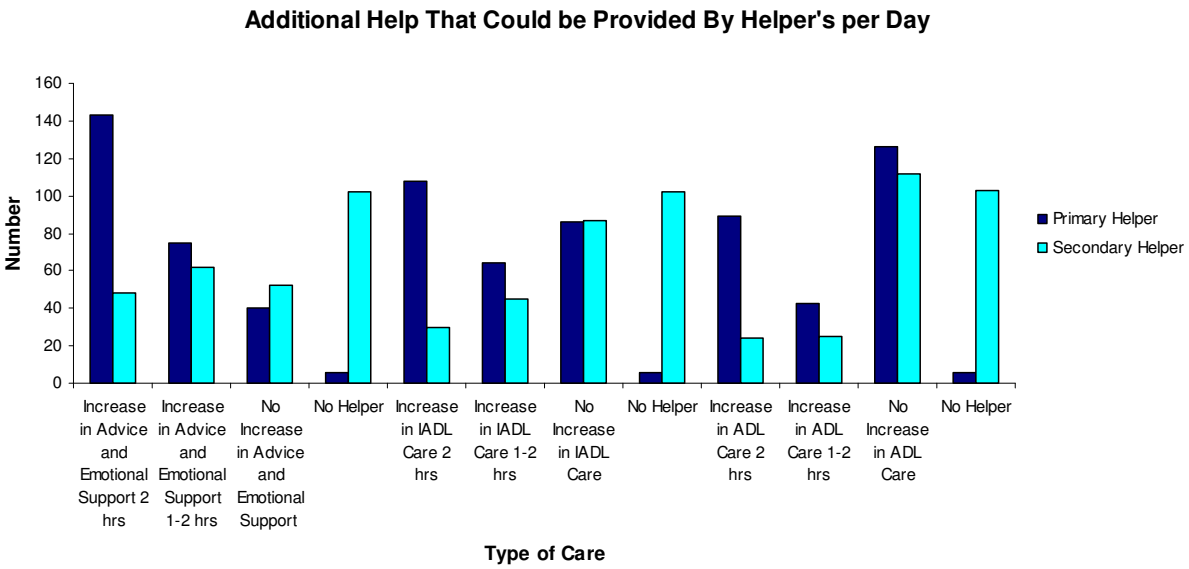


Figure 3.9: Additional Help that could be provided by Helper's per Day.

3.26 Caregiver Feelings:

Of the caregivers that could not continue; there were 245 (93%) caregivers that could continue, but 19 (17%) caregivers could not continue giving participants care.

Of the primary caregivers that feel a lack of support of other family; there were 263 (99.5%) caregivers that did not feel a lack of support from other relatives, and there is one (0.5%) caregiver that did feel a lack of support from other relatives.

Of the primary caregivers that were angry, depressed: there were 259 (98%) caregivers, that are not angry or depressed, but there were five (2%) caregivers, that were angry and depressed.

Of the caregivers where none of the above applies; there were 23 (8%) caregivers, where the above applies, and 241 (91%) caregivers, where the above did not apply.

3.27 Amount of Informal Help:

The current number of hours of help by caregivers (primary and secondary) over the last seven days is summed and rounded to the nearest hour and presented in Table 3.2 below.

For the 264 participants the amount of hours received over the five week days, two weekend days and the total over seven days, is presented in Table 3.1 and Figure 3.10. There was more hours given over the weekend, than over the weekdays, for zero to four hours, but after that there was more hours given in the weekdays, than in the weekends, i.e. for five to 30 hours after which, there was no pattern discernable.

Table 3.1: The Amount of Informal Help given to the 264 participants in hours over the five-week days and the two weekend days and summed over the whole week.

Hours	Five Day Frequency	Two Day Frequency	Total Seven Day Frequency
0	39	71	110
1	25	51	76
2	49	66	115
3	22	9	31
4	18	33	51
5	30	6	36
6	8	4	12
7	7	0	7
8	7	8	15
9	1	0	1
10	19	6	25
12	1	2	3
13	1	0	1
14	6	0	6
15	4	2	6
16	0	1	1
18	1	1	2
20	6	0	6
21	1	0	1
22	1	0	1
24	1	1	2
25	2	0	2
26	1	0	1
28	1	0	1
30	6	0	6
35	1	0	1
40	2	0	2
44	0	1	1
47	1	0	1
48	0	2	2
56	1	0	1
72	1	0	1
120	1	0	1

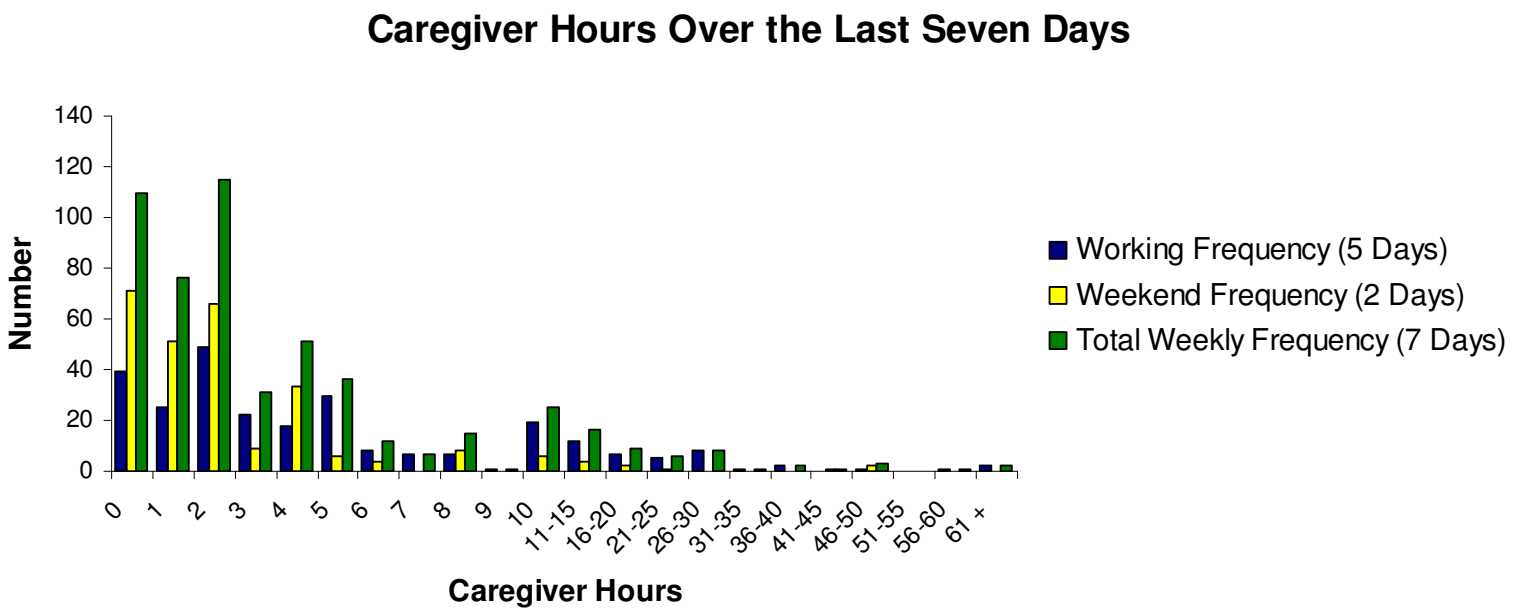


Figure 3.10: The Informal Help given to participants with hours 0 to 10, then the rest of the participants, were grouped into four or more hour blocks.

3.28 Current IADL Care:

Of the 264 participants over the last seven days their (A) Performance (five levels of which were; i. Independent, ii. Some Help, iii. Full Help, iv. By Others, and v. Activity did not Occur) and (B) Difficulty (three levels of which were; i. No Difficulty, ii. Some Difficulty, and iii. Great Difficulty) in an IADL task was graded. They cover IADL's of; a. Meal Preparation, b. Ordinary Housework, c. Managing Finances, d. Managing Medications, e. Phone Use, f. Shopping, and g. Transportation. (Refer to Discussion Section 4.5, pg 88, for summary of results).

Meal Preparation:

a. There were 112 (42%) participants, that were independent in meal preparation, 59 (22%) had some help with the meal preparation, 10 (4%) needed a lot of help, 79 (30%) had others doing the meal preparation, and four (1.5%) had no meal preparation.

   There were 92 (35%) participants, that alone, have no difficulty in meal preparation, 92 (35%) would have some difficulty in meal preparation alone, and 80 (30%) would have great difficulty as little involvement in meal preparation was possible.

Ordinary Housework:

b. There were 25 (9.5%) participants, that were independent in ordinary housework, 50 (19%) had some help with the ordinary housework, 42 (16%) needed a lot of help, 141 (53.5%) had others doing the ordinary housework, and six (2%) did no ordinary housework.

   There were 19 (7%) participants, that alone, had no difficulty in ordinary housework, 74 (28%) would have some difficulty in ordinary housework alone, and 171 (65%) would have great difficulty as little involvement in ordinary housework is not possible.

Managing Finances:

c. There were 150 (57%) participants, that were independent in managing finances, 48 (18%) had some help with managing finances, 12 (4.5%) needed a lot of help with managing finances, 53 (20%) had others managing finances, and one (0.5%) participant had no one managing finances.

   There were 160 (61%) participants, that alone, have no difficulty in managing finances, 53 (20%) would have some difficulty in managing finances alone, and 51 (19%) would have great difficulty as little involvement in managing finances is possible.

Managing Medications:

d. There were 180 (68%) participants, that were independent in managing medications, 21 (8%) had some help with managing medications, 35 (13%) needed a lot of help, 27 (10%) participants had others managing medications, and one (0.5%) participant had no one managing medications.

   There were 176 (67%) participants, that alone, had no difficulty in managing medications, 49 (18.5%) would have some difficulty in managing medications alone, and 39 (15%) would have great difficulty as little involvement in managing medications is possible.

Phone Use:

e. There were 236 (89%) participants, that were independent in phone use, 12 (4.5%) had some help with phone use, four (1.5%) needed a lot of help with phones, three (1%) had others doing the phone use, and nine (3%) had no phone use.

   There were 233 (88%) participants, that alone, had no difficulty in phone use alone, 21 (8%) would have some difficulty in phone use alone, and ten (4%) would have great difficulty as little involvement in phone use is possible.

Shopping:

f. There were 72 (28%) participants, that were independent in shopping, 61 (23%) had some help with the shopping, 32 (12%) needed a lot of help, 82 (31%) had others doing the shopping, and 17 (6.5%) did no shopping.

   There were 63 (24%) participants, that alone, had no difficulty in shopping, 80 (30%) would have some difficulty in shopping alone, and 121 (46%) would have great difficulty as little involvement in shopping is possible.

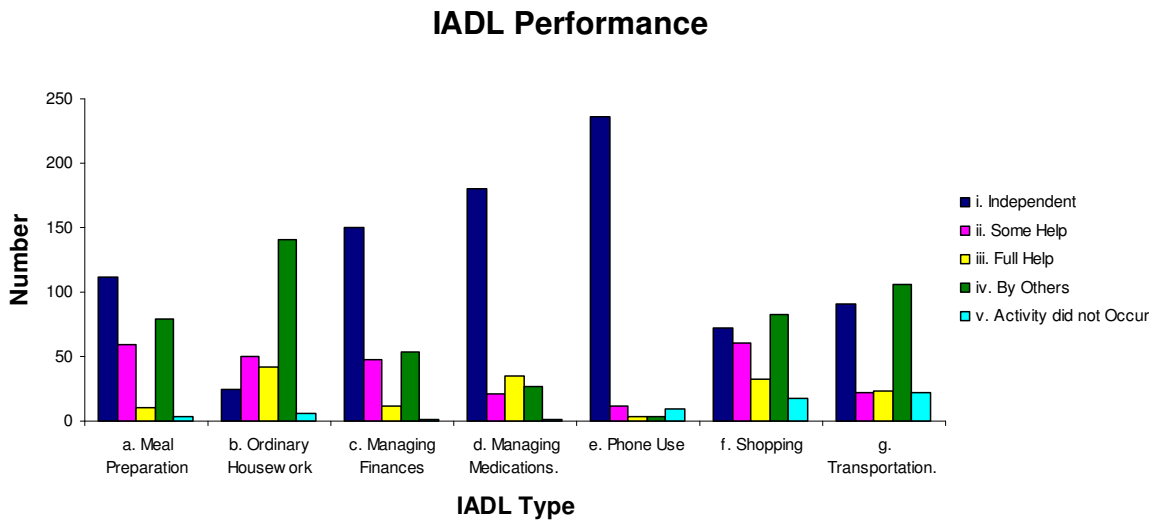
Transportation:

g. There were 91 (34.5%) participants, that were independent in transportation (excludes walking), 22 (8%) had some help with the transportation, 23 (9%) needed a lot of help with transportation, 106 (40%) had others doing the transportation, and 22 (8%) had no transportation.

   There were 84 (32%) participants, that alone, had no difficulty in transportation, 45 (17%) would have some difficulty in transportation alone, and 135 (51%) would have great difficulty as little involvement in transportation is possible.

The IADL levels for Participants (A) Performance and (B) Difficulty are illustrated below in Figure 3.11 (A) and (B).

(A)



(B)

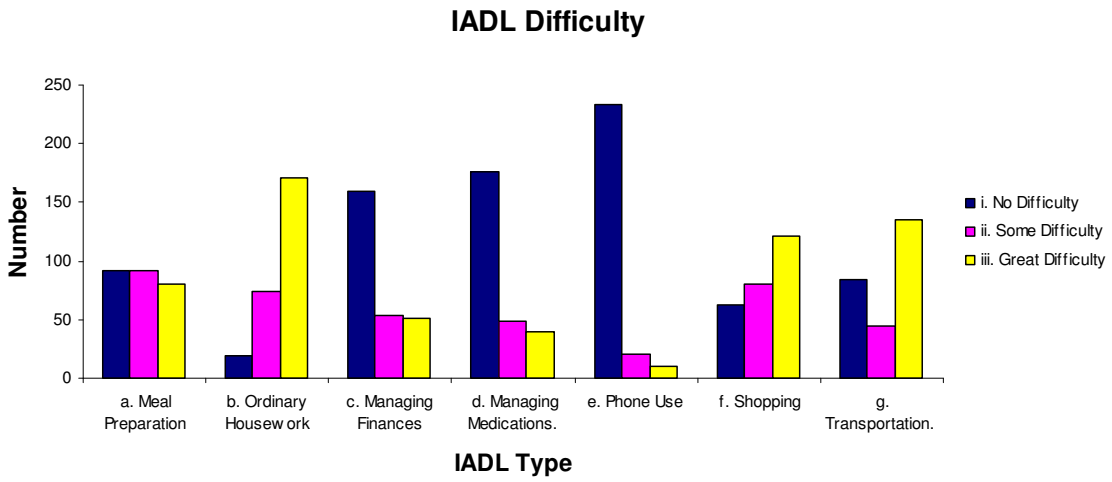


Figure 3.11: (A) IADL Performance of Participants, over five levels, and (B) IADL Difficulty of Participants, over three levels.

Cross-Tabulations of IADL:

The IADL cross-tabulations were (A) Performance (five levels of which were; i. Independent, ii. Some Help, iii. Full Help, By Others, and iv. Activity did not Occur) versus (B) Difficulty (three levels of which were; i. No Difficulty, ii. Some Difficulty, and iii. Great Difficulty). They cover IADL's of; a. Meal Preparation, b. Ordinary Housework, c. Managing Finances, d. Managing Medications, e. Phone Use, f. Shopping, and g. Transportation.

Cross-tabulations for Participant's: a. Meal Preparation (the $\chi^2 = 190.4868$), b. Ordinary Housework ($\chi^2 = 192.4606$), c. Managing Finances ($\chi^2 = 285.5364$), d. Managing Medications ($\chi^2 = 330.8484$), and e. Phone Use ($\chi^2 = 276.4450$); for all IADL's, (i.e. a-e), the DF = 8, the $P < 0.0001$, and the n = 264. Note: treat significance with caution due to small counts.

The cross-tabulations for Participant's, f. Shopping, Performance versus Difficulty, showed that:

- 53 (20%) were independent and have no difficulty, 17 (6.5%) were independent but have some difficulty and two (1%) were independent but had great difficulty shopping;
- seven (3%) needed some help but had no difficulty, 41 (15.5%) needed some help and had some difficulty and 13 (5%) needed some help and had great difficulty shopping;
- no participants needed full help and had no difficulty, seven (3%) needed full help and some difficulty and 25 (9.5%) needed full help and had great difficulty shopping;
- two (1%) needed shopping by others, but no difficulty, ten (4%) needed shopping by others, but some difficulty and 70 (26.5%) needed shopping by others and had great difficulty;
- and one (0.5%) participant the activity did not occur but had no difficulty, for five (2%) the activity did not occur but had some difficulty and for 11 (4%) the activity did not occur and had great difficulty shopping.

Variables of, f. Shopping, Performance versus Difficulty; the $\chi^2 = 216.1053$, the DF = 8, the $P < 0.0001$ and the n = 264.

The cross-tabulations for Participant's, g. Transportation, Performance versus Difficulty:

- 76 (29%) are independent and have no difficulty, 13 (5%) were independent but have some difficulty and two (1%) were independent but had great difficulty with transportation;
- two (1%) needed some help but had no difficulty, 16 (6%) needed some help and had some difficulty and four (1.5%) needed some help and had great difficulty with transportation;

- one (0.5%) participant needed full help and had no difficulty, five (2%) needed full help and some difficulty and 17 (6.5%) needed full help and had great difficulty with transportation;
- three (1%) needed transportation by others, but no difficulty, six (2%) needed transportation by others, but some difficulty and 97 (37%) needed transportation by others and had great difficulty;
- and for two (1%) the activity did not occur but had no difficulty, for five (2%) the activity did not occur but had some difficulty and for 15 (6%) the activity did not occur and had great difficulty with transportation.

There was a significant relationship between the variables of, g. Transportation, Performance versus Difficulty; the $\chi^2 = 250.8927$, the DF = 8, the $P < 0.0001$, and the n = 264.

(For the full Tables and Cross-Tabulations above, see Appendix B, pg 108).

3.29 Present ADL Care:

Over the last three days their Current Performance (considering all episodes of these activities) of an ADL task or activity was graded over seven levels, which were; i. Independent, ii. Setup Help only, iii. Supervision, iv. Limited Assistance, v. Extensive Assistance, vi. Maximal Assistance, vii. Total Dependence, and viii. Activity did not Occur, by the amount of help they required in performing the task/activity. (Note: for Bathing, it was only, coded for most dependent single episode in last seven days). The ADL activities were: a. Mobility in Bed, b. Moving between Sitting and Standing, c. Mobility Around the Home, d. Mobility Outside the Home, e. Dressing the Upper Body, f. Dressing the Lower Body, g. Eating, h. Toilet Use, i. Personal Hygiene, and j. Bathing. This is reported in Table 3.2 (pg 36) and Figure 3.12 (pg 39), below and shows a summary of ADL for the 264 participants.

Table 3.2: The Current ADL Status of the 264 participants showing, the number and with the percent in brackets.

Current ADL Status	i. In-dependent	ii. Setup Help only	iii. Super-vision	iv. Limited Assistance	v. Extensive Assistance	vi. Maximal Assistance	vii. Total Dependence	vii. Activity did not Occur
a. Mobility in Bed	223 (84.5)	5 (2)	5 (2)	15 (6)	7 (3)	4 (1.5)	2 (1)	3 (1)
b. Moving between Sitting and Standing	218 (83)	4 (1.5)	12 (5)	15 (6)	7 (3)	5 (2)	3 (1)	0 (0)
c. Mobility Around the Home	214 (81)	8 (3)	15 (6)	14 (5)	8 (3)	3 (1)	1 (0.5)	1 (0.5)
d. Mobility Outside the Home	197 (75)	6 (2)	9 (3.5)	9 (3.5)	12 (4.5)	6 (2)	3 (1)	22 (8)
e. Dressing the Upper Body	188 (71)	10 (4)	8 (3)	35 (13)	16 (6)	3 (1)	2 (1)	2 (1)
f. Dressing the Lower Body	178 (67.5)	7 (3)	8 (3)	40 (15)	19 (7)	7 (3)	3 (1)	2 (1)
g. Eating	238 (90)	10 (4)	5 (2)	7 (3)	1 (0.5)	1 (0.5)	2 (1)	0 (0)
h. Toilet Use	223 (84.5)	5 (2)	10 (4)	13 (5)	8 (3)	2 (1)	3 (1)	0 (0)
i. Personal Hygiene	211 (80)	11 (4)	9 (3.5)	19 (7)	9 (3.5)	2 (1)	3 (1)	0 (0)
j. Bathing	146 (55)	4 (1.5)	17 (6.5)	44 (17)	33 (12.5)	13 (5)	7 (3)	0 (0)

Mobility in Bed:

a. There were 223 (84.5%) participants, that were independent with mobility in bed; five (2%) reported some setup help was required with mobility in bed; five (2%) required supervision (some physical assistance) with mobility in bed; 15 (6%) required limited assistance, i.e. physical assistance with mobility in bed; seven (3%) required extensive assistance, e.g. task sometimes performed by others and weight bearing physical help; four (1.5%) required maximum assistance in bed mobility, with more than half the task performed by others; two (1%) are totally dependent on others for bed mobility; and three (1%) the activity did not occur.

Moving between Sitting and Standing:

c. There were 218 (83%) participants, that were independent with moving between sitting/standing or surfaces; four (1.5%) required some setup help with moving between positions; 12 (5%) required supervision (some physical assistance) with moving between positions; 15 (6%) required limited assistance, i.e. physical assistance with moving between positions; seven (3%) required extensive assistance, e.g. task sometimes performed by others and weight bearing physical help; five (2%) require maximum assistance in moving between sitting/standing, with more than half the task performed by

others; three (1%) are totally dependent on others for moving between positions; and in none of the participants the activity did not occur.

Mobility Around the Home:

d. There were 214 (81%) participants, that were independent with mobility around the home, this includes a wheelchair if used; eight (3%) required some setup help with mobility at home; 15 (6%) required supervision (some physical assistance) with mobility at home; 14 (5%) required limited assistance, i.e. physical assistance with mobility at home; eight (3%) required extensive assistance, e.g. task is sometimes performed by others and weight bearing physical help; three (1%) require maximum assistance with mobility around the home, with more than half the task performed by others; one (0.5%) participant was totally dependent on others for mobility at home; and in one (0.5%) participant the activity did not occur.

Mobility Outside the Home:

e. There were 197 (75%) participants, that were independent with mobility outside the home, includes wheelchair if used; six (2%) required some setup help with mobility outside the home; nine (3.5%) required supervision (some physical assistance) with mobility outside the home; nine (3.5%) required limited assistance, i.e. physical assistance with mobility outside the home; 12 (4.5%) required extensive assistance, e.g. task sometimes performed by others and weight bearing physical help; six (2%) required maximum assistance with mobility outside the home, with more than half the task performed by others; three (1%) were totally dependent on others for mobility outside home; and in 22 (8%) the activity did not occur.

Dressing the Upper Body:

f. There were 188 (71%) participants, that were independent with dressing and undressing the upper body; ten (4%) required some setup help with dressing the upper body; eight (3%) required supervision (some physical assistance) with dressing; 35 (13%) required limited assistance, i.e. physical assistance with dressing; 16 (6%) required extensive assistance, e.g. task sometimes performed by others and weight bearing physical help with dressing; three (1%) required maximum assistance with dressing and undressing, with more than half the task performed by others; two (1%) were totally dependent on others for dressing the upper body; and two (1%) the activity did not occur.

Dressing the Lower Body:

g. There were 178 (67.5%) participants, that were independent with dressing and undressing the lower body (includes shoes); seven (3%) required some setup help with dressing the lower body; eight (3%) required supervision (some physical assistance) with dressing; 40 (15%) required limited assistance, i.e. physical assistance with dressing; 19 (7%) required extensive assistance, e.g. task sometimes performed by others and weight bearing physical help with dressing; seven (3%) required maximum assistance with dressing and undressing, with more than half the task performed by others; three (1%) were totally dependent on others for dressing the lower body; and two (1%) the activity did not occur.

Eating:

h. There were 238 (90%) participants, that were independent with eating; ten (4%) required some setup help with eating; five (2%) required supervision (some physical assistance) with eating; seven (3%) required limited assistance, i.e. physical assistance with eating; one (0.5%) participant required extensive assistance, e.g. task sometimes performed by others and weight bearing physical help with eating; one (0.5%) participant required maximum assistance with eating, with more than half the task performed by others; two (1%) were totally dependent on others for eating; and in none of the participants the activity did not occur.

Toilet Use:

i. There were 223 (84.5%) participants, that were independent with toilet use, which includes mobility, cleaning and use of aids such as catheters; five (2%) required some setup help with toileting; ten (4%) required supervision (some physical assistance) with toileting; 13 (5%) required limited assistance, i.e. physical assistance with toileting; eight (3%) required extensive assistance, e.g. task sometimes performed by others and weight bearing physical help with toileting; two (1%) required maximum assistance with toileting, with more than half the task performed by others; three (1%) were totally dependent on others for toileting; and in none of the participants the activity did not occur.

Personal Hygiene:

j. There were 211 (80%) participants, that were independent with personal hygiene, such as brushing hair and teeth, washing and drying hands; 11 (4%) pre-required some setup help with personal hygiene; nine (3.5%) required supervision (some physical assistance) with personal hygiene; 19 (7%) required limited assistance, i.e. physical assistance with personal hygiene; nine (3.5%) required extensive assistance, e.g. task sometimes

performed by others and weight bearing physical help with personal hygiene; two (1%) required maximum assistance with personal hygiene, with more than half the task performed by others; three (1%) were totally dependent on others for personal hygiene; and in none of the participants the activity did not occur.

Bathing:

k. There were 146 (55%) participants, that were independent with bathing e.g. in a bath/shower over the last seven days; four (1.5%) required some setup help with bathing; 17 (6.5%) required supervision (some physical assistance) with bathing; 44 (17%) required limited assistance, i.e. physical assistance with bathing; 33 (12.5%) required extensive assistance, e.g. task sometimes performed by others and weight bearing physical help with bathing; 13 (5%) required maximum assistance with bathing, with more than half the task performed by others; seven (3%) were totally dependent on others for bathing; and in none of the participants the activity did not occur.

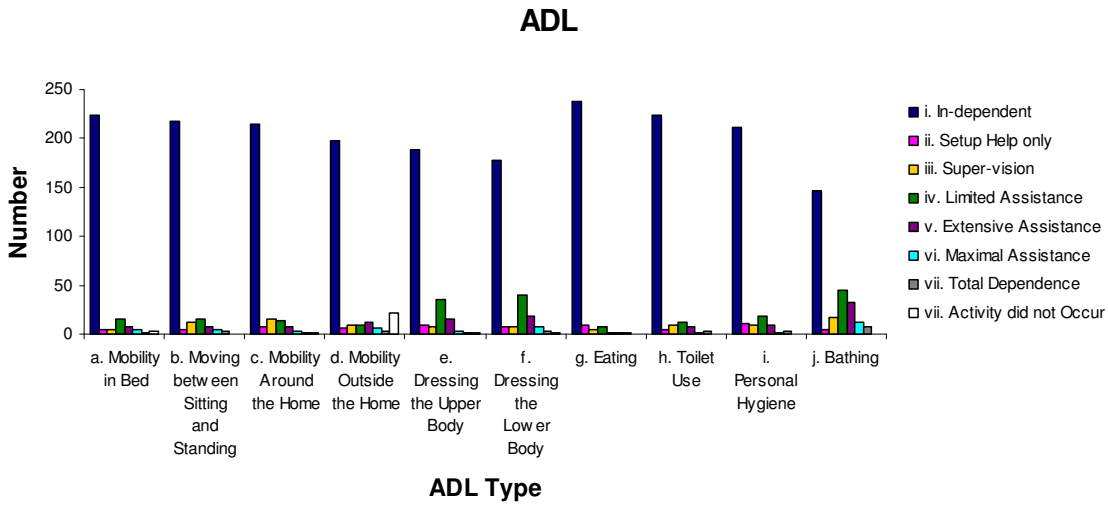


Figure 3.12: Current ADL Status of Participants, over eight levels.

Of the 264 participants, for 132 (50%) their ADL status was no worse than 90 days ago (or since last assessment if less than 90 days), but in 132 (50%) their ADL status was worse. In summary, across all ADL measures, participants were generally independent or required some help, with bathing the activity they required the most help.

3.30 Mobility:

The inside mobility for; 126 (48%) participants was independent of device; 43 (16%) participants required a walking stick; 84 (32%) mobility was assisted by walker/crutch, two

(1%) require a mobility scooter; eight (3%) require a wheelchair; and in one (0.5%) participant the activity did not occur.

The outside mobility for; 92 (35%) participants was independent of devices; 51 (19%) required a walking stick; 66 (25%) participants mobility is by walker/crutch; seven (2.5%) require a mobility scooter; 23 (9%) require a wheelchair; and in 25 (9.5%) the activity did not occur.

For the 264 participants their current stair use in the last three days (using hand rails if required) showed; 85 (32%) participants required no help; 28 (11%) participants required help with stairs; and in 151 (57%) participants the activity did not occur.

3.31 Physical Activity:

For the 264 participants, their activity level in the last 30 days ago (or since last assessment if less than 30 days) showed; 146 (55%) went outside every day; 79 (30%) went outside two to six days a week; 23 (9%) went outside one day a week; and in 16 (6%) did not go outside.

For the 264 participants, their current physical activity over the last three days showed; 124 (47%) did two or more hours of activity; and 140 (53%) did less than two hours.

3.32 Functional Potential:

There were participants that believed they could increase function i.e. independence; with 186 (70.5%) believing they could increase independence; but 78 (29.5%), did not believe they could increase independence.

There were caregivers that believed participants could increase functional level; for 233 (88%) their helpers believed participants could increase functional level; and for 31 (12%) their helpers believed participants could not increase their functional level.

There were participants that expected to have improved health status such as recovery from current disease or conditions; 234 (89%) expected to improve their health status; but 30 (11%) did not expect to improve their health status from current diseases or conditions.

The participants that are none of the above, was reported for; 84 (32%) participants were not of the above, and 180 (68%) participants were the above.

3.33 Bladder Incontinence-Continence:

Of the 264 participants that reported their Bladder Continence in the last seven days (or since last assessment if less than seven days), there were: 182 (69%) that were continent (no device used), i.e. had complete control; 18 (7%) were continent (with device), i.e. had complete control with catheter or any urine collection device; 24 (9%) were usually continent, i.e. incontinence, once or less than once in the seven days; 13 (5%) were occasionally incontinent,

i.e. two or more times a week, but not daily; 20 (8%) were frequently incontinent, i.e. occurred daily but some control; seven (3%) were incontinent, i.e. daily events and no control; and there were no participants in which the event did not occur.

There were 235 (89%) participants where bladder incontinence was no worse than 90 days ago (or since last assessment if less than 90 days); but 29 (11%) were worse.

Of the 264 participants if any bladder devices were used in the last seven days (or since last assessment if less than seven days), there were: 197 (74.5%) that did not use and 67 (25.5%) that used pads or briefs; 250 (95%) that did not use and 14 (5%) did use a urinary catheter; and 81 (31%) were in one of the above categories and 183 (69%) were in none of the above, category.

3.34 Bowel Continence/Incontinence:

Of the 264 participants their control of bowel movement in the last seven days (or since last assessment if less than seven days), was reported for: 235 (89%) as continent (no device), i.e. complete control; six (2%) as continent (with device – ostomy bag) i.e. complete control, no leaks; three (1%) as usually continent, i.e. incontinence less than weekly; eight (3%) as occasionally incontinent, i.e. incontinence once weekly; ten (4%) as frequently incontinent, i.e. two or three (or more) times weekly, but not daily; one (0.5%) participant as incontinent, i.e. incontinence all of the time (or almost all), no bowel control; and one (0.5%) participant where a bowel movement did not occur.

3.35 Disease Diagnosis:

For the 264 participants, where the medical disease that a physician requires treatment or monitoring for as it affected the participant's status, plus included a reason for professional homecare monitoring or hospitalisation of participant, in the last 90 days (or since the last assessment if less than 90 days), was reported for any participant. There is no disease present, if the disease is present but required no monitoring or treatment for, or disease is present but requires monitoring or treatment by a homecare professional (see Table 3.3, pg 42 and Figure 3.13, pg 36).

Table 3.3: Disease Diagnosis, of the 264 participants and the monitoring or treatment required.

Disease or Condition	No Disease	Has Disease but no monitoring or treatment required	Has Disease but requires monitoring or treatment
Heart/Circulation:			
Cerebro-vascular event (stroke)	213 (80.5%)	21 (8%)	30 (11%)
Congestive heart failure	204 (77%)	14 (5%)	46 (17.5%)
Coronary Heart Disease	208 (79%)	7 (2.5%)	49 (18.5%)
Hypertension	142 (54%)	8 (3%)	114 (43%)
Irregular pulse	231 (87.5%)	8 (3%)	25 (9.5%)
Peripheral vascular disease	238 (90%)	7 (2.5%)	19 (7%)
Neurological:			
Alzheimer's	261 (99%)	0 (0%)	3 (1%)
Dementia	253(96%)	2 (1%)	9 (3.5%)
Head trauma	243 (92%)	18 (7%)	3 (1%)
Hemiplegia/Hemiparesis event (stroke)	254 (96%)	2 (1%)	8 (3%)
Multiple Sclerosis (MS)	261 (99%)	0 (0%)	3 (1%)
Parkinson's	259 (98%)	0 (0%)	5 ((2%)
Musculo-Skeletal:			
Arthritis	97 (37%)	24 (9%)	143 (54%)
Hip fracture	252 (95.5%)	8 (3%)	4 (1.5%)
Other fractures	242 (92%)	8 (3%)	14 (5%)
Osteoporosis	186 (70.5%)	8 (3%)	70 (26.5%)
Senses:			
Cataracts	202 (76.5%)	34 (13%)	28 (10.5%)
Glaucoma	244 (92.5%)	6 (2%)	14 (5.5%)
Psychological/Mood:			
Any Psychological problems	253 (96%)	2 (1%)	9 (3.5%)
Infections:			
HIV infection	264 (100%)	0 (0%)	0 (0%)
Pneumonia	249 (94%)	4 (1.5%)	11 (4%)
Tuberculosis (TB)	264 (100%)	0 (0%)	0 (0%)
Urinary tract infection	244 (92.5%)	4 (1.5%)	16 (6%)
Other Diseases:			
Cancer	231 (87.5%)	7 (2.5%)	26 (10%)
Diabetes	217 (82%)	3 (1%)	44 (17%)
Emphysema/COPD/Asthma	215 (81.5%)	7 (2.5%)	42 (16%)
Renal failure	246 (93%)	8 (3%)	10 (4%)
Thyroid disease	235 (89.5%)	4 (1.5%)	25 (9.5%)
Total Diseases:			
Number of participants	4 (1.5%)	260 (98.5%)	

Heart/Circulation:

Of the 264 participants; 213 (80.5%) had no symptoms of a cerebro-vascular event (stroke); 21 (8%) did have a stroke, that required no focused treatment; and 30 (11%) did have a stroke and required treatment and/or monitoring by a homecare professional.

Of the 264 participants; 204 (77%) had no symptoms of congestive heart failure; 14 (5%) did have a heart attack, that required no focused treatment; and 46 (17.5%) did have a heart attack and required treatment and/or monitoring by a homecare professional.

Of the 264 participants; 208 (79%) had no symptoms of Coronary Heart Disease; seven (2.5%) did have heart disease, that required no focused treatment; and 49 (18.5%) did have heart disease and required treatment and/or monitoring by a homecare professional.

Of the 264 participants; 142 (54%) had no symptoms of hypertension; eight (3%) did have hypertension that required no focused treatment; and 114 (43%) did have hypertension and required treatment and/or monitoring by a homecare professional.

Of the 264 participants; 231 (87.5%) had no symptoms of an irregular pulse (heart rate); eight (3%) did have an irregular pulse, that required no focused treatment; and 25 (9.5%) did have an irregular pulse and required treatment and/or monitoring by a homecare professional.

Of the 264 participants; 238 (90%) had no symptoms peripheral vascular disease e.g. varicose veins; seven (2.5%) did have vascular disease, that required no focused treatment; and 19 (7%) did have vascular disease and required treatment and/or monitoring by a homecare professional.

Neurological:

Of the 264 participants; 261 (99%) had no symptoms of Alzheimer's; no participants had Alzheimer's, that required no focused treatment; and three (1%) had Alzheimer's and required treatment and/or monitoring by a homecare professional.

Of the 264 participants; 253 (96%) had no symptoms of dementia (but not Alzheimer's); two (1%) had dementia, that required no focused treatment; and nine (3.5%) had dementia and required treatment and/or monitoring by a homecare professional.

Of the 264 participants; 243 (92%) had no symptoms of head trauma; 18 (7%) had head trauma, that required no focused treatment; and three (1%) had head trauma and required treatment and/or monitoring by a homecare professional.

Of the 264 participants; 254 (96%) had no symptoms of Hemiplegia/Hemiparesis event (stroke); two (1%) had Hemiplegia/Hemiparesis, that required no focused treatment; and eight

(3%) had Hemiplegia/Hemiparesis and required treatment and/or monitoring by a homecare professional.

Of the 264 participants; 261 (99%) had no symptoms of Multiple Sclerosis (MS); no participant had MS, that required no focused treatment; and three (1%) had MS and required treatment and/or monitoring by a homecare professional.

Of the 264 participants; 259 (98%) had no symptoms of Parkinson's; no participant had Parkinson's, that required no focused treatment; and five (2%) had Parkinson's and required treatment and/or monitoring by a homecare professional.

Musculo-Skeletal:

Of the 264 participants; 97 (37%) had no symptoms of arthritis; 24 (9%) had arthritis, that required no focused treatment; and 143 (54%) had arthritis and required treatment and/or monitoring by a homecare professional.

Of the 264 participants; 252 (95.5%) had not had a hip fracture; eight (3%) had a hip fracture, that required no focused treatment; and four (1.5%) had a hip fracture and required treatment and/or monitoring by a homecare professional.

Of the 264 participants; 242 (92%) had not had any other fractures e.g. wrist, leg; eight (3%) had a fracture, that required no focused treatment, and 14 (5%) had a fracture and required treatment and/or monitoring by a homecare professional.

Of the 264 participants; 186 (70.5%) had no symptoms of osteoporosis; eight (3%) had osteoporosis, that required no focused treatment; and 70 (26.5%) had osteoporosis and required treatment and/or monitoring by a homecare professional.

Senses:

Of the 264 participants; 202 (76.5%) did not have cataracts; 34 (13%) s did have cataracts, that required no focused treatment; and 28 (10.5%) did have cataracts and required treatment and/or monitoring by a homecare professional.

Of the 264 participants; 244 (92.5%) did not have glaucoma; six (2%) had glaucoma, that required no focused treatment; and 14 (5.5%) had glaucoma and required treatment and/or monitoring by a homecare professional.

Psychological/Mood:

Of the 264 participants; 253 (96%) had no diagnosis of any psychological problems; two (1%) had psychological problems, that required no focused treatment; and nine (3.5%) had psychological problems and required treatment and/or monitoring by a homecare professional.

Infections:

Of the 264 participants; 264 (100%) did not have an HIV infection.

Of the 264 participants; 249 (94%) did not have pneumonia; four (1.5%) had pneumonia, that required no focused treatment; and 11 (4%) had pneumonia and required treatment and/or monitoring by a homecare professional.

Of the 264 participants; 264 (100%) did not have tuberculosis (TB).

Of the 264 participants; 244 (92.5%) did not have a urinary tract infection (in the last 30 days); four (1.5%) had a urinary tract infection, that required no focused treatment; and 16 (6%) had a urinary tract infection and required treatment and/or monitoring by a homecare professional.

Other Diseases:

Of the 264 participants; 231 (87.5%) did not have cancer (in the last five years-excluding skin cancer); seven (2.5%) had cancer, that required no focused treatment; and 26 (10%) had cancer and required treatment and/or monitoring by a homecare professional.

Of the 264 participants; 217 (82%) did not have diabetes; three (1%) had diabetes, that required no focused treatment; and 44 (17%) had diabetes and required treatment and/or monitoring by a homecare professional.

Of the 264 participants; 215 (81.5%) did not have Emphysema/COPD/Asthma; seven (2.5%) had Emphysema/COPD/Asthma, that required no focused treatment; and 42 (16%) had Emphysema/COPD/Asthma and required treatment and/or monitoring by a homecare professional.

Of the 264 participants; 246 (93%) did not have renal failure; eight (3%) had renal failure, that required no focused treatment; and ten (4%) had renal failure and required treatment and/or monitoring by a homecare professional.

Of the 264 participants; 235 (89.5%) did not have thyroid disease (hyper or hypo); four (1.5%) had thyroid disease, that required no focused treatment; and 25 (9.5%) had thyroid disease and required treatment and/or monitoring by a homecare professional.

Total Diseases:

Of the 264 participants; four (1.5%) did not have any of the above diseases, that 260 (98.5%) did have one or more of the above diseases.

The distribution of Disease across Participants is illustrated in Figure 3.9 below.

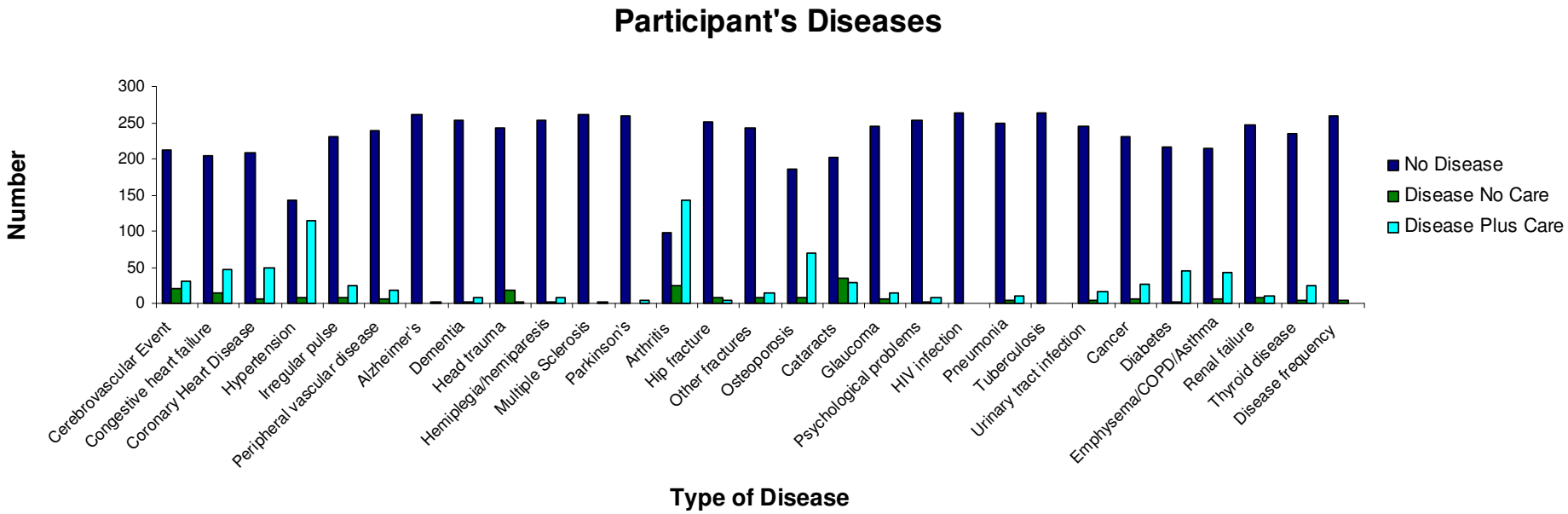


Figure 3.13: Distribution of Participant Diseases, note; Hypertension, Arthritis and Osteoporosis have high disease levels.

3.36 Preventative Health Measures:

Over the last two years, have any of the 264 participants had preventative health measures undertaken such as blood pressure measured, the influenza vaccination and other public health screening procedures?

Of the 264 participants was their blood pressure taken; for two (1%) they did not have their blood pressure taken, but 262 (99%) did have their blood pressure taken.

Of the 264 participants, did they have the influenza vaccination? 60 (23%) reported they did not have an influenza vaccination, and 204 (77%) had an influenza vaccination.

How many of the 264 participants had gastro-screening (i.e. blood in stool or endoscopy)? 230 (87%) did not have gastro-screening, but 34 (13%) reported they had gastro-screening.

How many of the 264 participants that had breast examination or mammography? 214 (81%) did not have this screening, and 50 (19%) did have this screening.

Of the 264 participants that were none of the above; 263 (99.5%) were the above, but one (0.5%) participant, were not the above.

3.37 Problem Conditions:

As part of the InterRAI assessment the following questions were, checked for, and subsequently recorded for, all that were present on at least two of the last three days, (see Table 3.4, below).

Table 3.4: The Problem Conditions or Symptoms, which were currently experienced (over the last three days) by, all of the 264 participants.

Problem Condition or Symptom	No Condition	Condition Currently Present (on two out of the last three days)	Condition Currently Present (on any of the last three days)
Diarrhoea	252 (95.5%)	12 (4.5%)	
Difficulty urinating or urinating three or more times at night	227 (86%)	37 (14%)	
Fever	260 (98.5%)	4 (1.5%)	
Loss of appetite	236 (89.5%)	28 (10.5%)	
Vomiting	256 (97%)	8 (3%)	
Total Number	192 (73%)	72 (27%)	
Chest pain/pressure	227 (86%)		37 (14%)
No bowel movement	259 (98%)		5 (2%)
Dizziness/light-headedness	205 (78%)		59 (22%)
Oedema	194 (73.5%)		70 (26.5%)
Shortness of breath	146 (55%)		118 (45%)
Delusions	264 (100%)		0 (0%)
Hallucinations	261 (99%)		3 (1%)
Total Number	91 (34.5%)		173 (65.5%)

Note: Participant numbers with percent in brackets.

Of the 264 participants, those that had diarrhoea were; 252 (95.5%) did not have diarrhoea; and 12 (4.5%) did.

Of the 264 participants, those that had difficulty urinating or urinating three or more times at night; 227 (86%) did not have urinating difficulties; but 37 (14%) did have urinating difficulties.

Of the 264 participants, those that had fever were; 260 (98.5%) did not have a fever; and four (1.5%) did have a fever.

Of the 264 participants, those that had loss of appetite were; 236 (89.5%) did not have appetite loss; but 28 (10.5%) did have appetite loss.

Of the 264 participants, those that had vomiting on at least two of the last three days were; 256 (97%) did not vomit; but eight (3%) had vomited.

Of the 264 participants, those that had none of the above, were; 72 (27%) did have the above; and 192 (73%) were not the above.

As part of the InterRAI assessment the following questions were checked for and recorded for, all present at any point during the last three days:

Of the 264 participants, those that had chest pain/pressure were; 227 (86%) did not have chest pain or pressure; but 37 (14%) did have chest pain or pressure.

Of the 264 participants, those that had no bowel movement were; 259 (98%) did have a bowel movement, and five (2%) did not have any bowel movement.

Of the 264 participants, those that had dizziness/light-headedness were; 205 (78%) did not have these symptoms; but 59 (22%), did have these symptoms.

Of the 264 participants, those that had oedema were; 194 (73.5%) did not have oedema, and 70 (26.5%) did have oedema.

Of the 264 participants, those that had shortness of breath were; 146 (55%) did not experience shortness of breath; and 118 (45%) did experience shortness of breath.

Of the 264 participants, those that had delusions were; none of the 264 (100%) had delusions.

Of the 264 participants, those that had hallucinated were; 261 (99%) did not have hallucinations; but three (1%) did hallucinate.

Of the 264 participants, those that had none of the above over the last three days were; 173 (65.5%) were the above; and 91 (34.5%) were not the above.

3.38 Pain:

The Pain Frequency, Intensity and Number of Pain Sites that were experienced by participants are illustrated in Figures 3.14, 3.15 and 3.16 below. (Refer to Discussion, Section 4.6, pg 89, for summary of results).

The 264 participants were assessed on the Frequency of complaints of Pain or signs of Pain: 73 (28%) reported having no pain; 35 (13%) participants pain was less than daily; 22 (8%) experienced pain daily (at least once); and 134 (51%) experienced pain daily but at least two episodes e.g. morning and afternoon. Pain was a common experience of the participants.

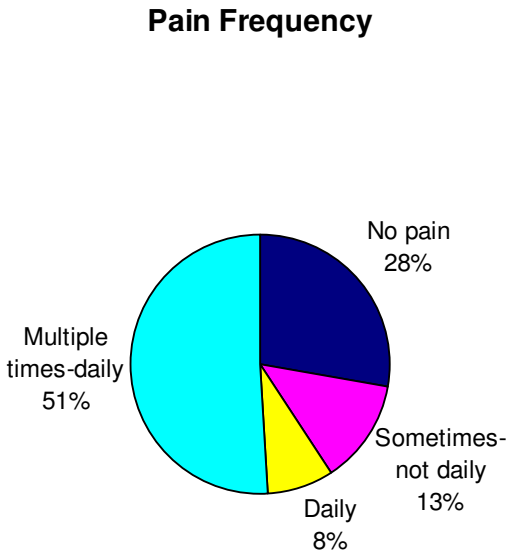


Figure 3.14: The Pain Frequency experienced by the 264 participants.

Of the 264 participants, the Intensity of the Pain was, as follows: 73 (28%) experienced no pain; 36 (14%) have mild pains; 79 (30%) experienced moderate pain; 47 (18%) have severe pain; and 29 (11%) can have pain that is at times excruciating.

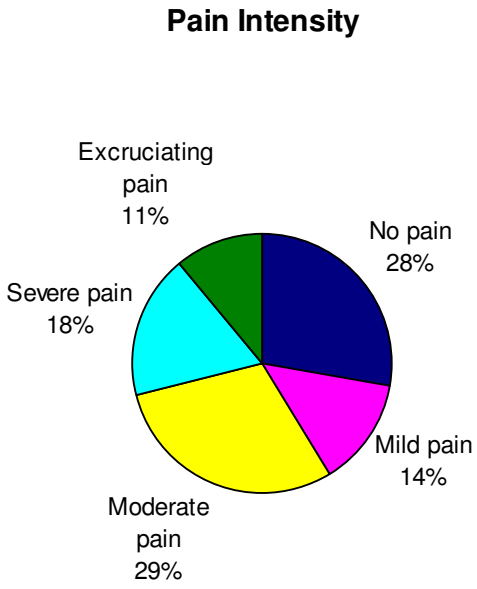


Figure 3.15: The Pain Intensity experienced by the 264 participants.

The 264 participants, were assessed does their Pain (in their view) disrupt their activities? For 128 (48.5%) pain did not disrupt usual activities; but in 136 (52.5%) pain intensity does disrupt activities. Again, this illustrates that pain has a disruptive effect on the daily activities undertaken by the participants in the CDHB InterRAI trial.

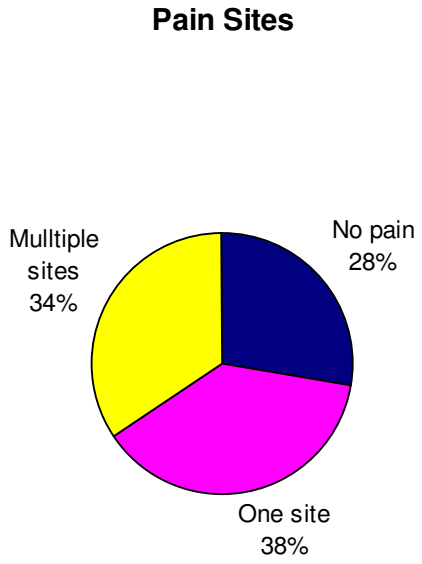


Figure 3.16: The Pain Sites experienced by the 264 participants.

Of the 264 participants, what is the Character of the Pain? For 73 (28%) there is no pain; for 100 (38%) participants, the pain is at one site; but for 91 (34.5%) the pain is at multiple sites.

Of the 264 participants, does the Pain Medication control the pain (in their view)? For 168 (64%) yes or don't experience any pain; for 77 (29%), their pain medication did not adequately control it; and in 19 (7%) pain was present but medication for it was not taken.

Pain Cross-Tabulations:

Cross-tabulations for Pain, Frequency versus Intensity; the χ^2 = 315.0310, DF = 12, P < 0.0001, and n = 264. Note: treat significance with caution due to small counts. (Note; there is no table description because of the low counts, see Appendix B, pg 114 for tables).

The cross-tabulations for Participant's, Pain; Frequency versus Character:

- 73 (28%) had no pain;
- 22 (8%) had pain less than daily and at a single site, and 13 (5%) had pain less than daily but at multiple sites;
- 18 (7%) had pain daily and at a single site, and four (1.5%) had pain daily but at multiple sites;
- and 60 (23%) had pain more than daily and at a single site, and 74 (28%) had pain more than daily but at multiple sites as well.

  Cross-tabulations for Pain, Frequency versus Character; the χ^2 = 280.9862, DF = 6, P < 0.0001, and n = 264.

The cross-tabulations for Participant's, Pain; Intensity versus Character:

- 73 (28%) had no pain;
- 32 (12%) had mild pain and at a single site, and four (1.5%) had mild pain but at multiple sites;
- 38 (14.5%) had moderate pain and at a single site, and 41 (15.5%) had moderate pain but at multiple sites;
- 20 (8%) had severe pain and at a single site, and 27 (10%) had severe pain but at multiple sites as well;
- and ten (4%) had excruciating pain and at a single site and 19 (7%) had excruciating pain but at multiple sites.

Cross-tabulations for Pain, Intensity versus Character; the χ^2 = 299.0520, DF = 8, P < 0.0001, and n = 264.

The cross-tabulations for Participant's, Pain; Frequency versus Medication:

- 73 (28%) had no pain;
- 28 (10.5%) had pain less than daily and controlled by medication, four (1.5%) had pain less than daily and pain not controlled by medication, and three (1%) had pain less than daily but pain medication not taken;
- 12 (4.5%) had pain daily and controlled by medication, eight (3%) had pain daily and pain not controlled by medication, and two (1%) had pain daily but pain medication not taken;
- and 55 (21%) had pain more than daily and controlled by medication, 65 (25%) had pain more than daily and pain not controlled by medication, and 14 (5%) had pain more than daily but pain medication not taken.

Cross-tabulations for Pain, Frequency versus Medication; the χ^2 = 77.7410, DF = 6, P < 0.0001, and n = 264.

The cross-tabulations for Participant's, Pain; Intensity versus Medication:

- 73 (28%) had no pain;
- 29 (11%) had mild pain and controlled by medication, two (1%) had mild pain and pain not controlled by medication, and five (2%) had mild pain but pain medication not taken;
- 42 (16 had moderate pain and controlled by medication, 28 (10.5%) had moderate pain and pain not controlled by medication, and nine (3.5%) had moderate pain but pain medication not taken;
- 19 (7%) had severe pain and pain controlled by medication, 25 (9.5%) had severe pain and pain not controlled by medication, and three (1%) had severe pain but pain medication not taken;
- and five (2%) had excruciating pain and pain controlled by medication, 22 (8%) had excruciating pain and pain not controlled by medication and two (1%) had excruciating pain but pain medication not taken.

Cross-tabulations for Pain, Intensity versus Medication; the χ^2 = 101.6313, DF = 8, P < 0.0001, and n = 264.

The cross-tabulations for Participant's, Pain; Disruption versus Frequency:

- 73 (28%) had no pain or had no disruption by pain, 18 (7%) had no disruption by pain and pain less than daily, and 10 (4%) had no disruption by pain and had pain daily, 18 (7%) participants had no disruption by pain and had pain more than daily;
- and 17 (6.5%) had pain that disrupts activity and pain less than daily, and 12 (4.5%) had pain that disrupts activity and had pain daily, and 107 (40.5%) had pain that disrupts activity and had pain more than daily.

  Cross-tabulations for Pain, Disruption versus Frequency; the $\chi^2 = 60.6810$, DF = 2, $P < 0.0001$, and n = 264.

The cross-tabulations for Participant's, Pain; Disruption versus Intensity:

- 73 (28%) had no pain or had no disruption by pain, 25 (9.5%) had had no disruption by pain and mild pain, 22 (8.5%) had had no disruption by pain and moderate pain, and eight (3%) had no disruption by pain and had severe pain, and no participants had no disruption by pain and had excruciating pain;
- and 11 (4%) had pain that disrupts activity and had mild pain, 57 (22%) had pain that disrupts activity and had moderate pain, 39 (15%) had pain that disrupts activity and had severe, and 29 (11%) had pain that disrupts activity and had excruciating pain.

  Cross-tabulations for Pain, Disruption versus Intensity; the $\chi^2 = 143.2867$, DF = 4, $P < 0.0001$, and n = 264.

The cross-tabulations for Participant's, Pain; Disruption versus Character:

- 73 (28%) had no pain or had no disruption by pain, 34 (13%) had no disruption by pain and at a single site, and 21 (8%) had no disruption by pain but at multiple sites;
- and 66 (25%) had had pain that disrupts activity and at a single site, and 70 (26.5%) had pain that disrupts activity but at multiple sites.

  Cross-tabulations for Pain, Disruption versus Character; the $\chi^2 = 109.4827$, DF = 2, $P < 0.0001$, and n = 264.

The cross-tabulations for Participant's, Pain; Disruption versus Medication:

- 111 (42%) had no pain or had no disruption by pain and controlled by medication, ten (4%) had no disruption by pain and pain not controlled by medication, and seven (3%) had no disruption by pain but pain medication not taken;

- and 57 (21.5%) had pain that disrupts activity and controlled by medication, 67 (25.5%) had pain that disrupts activity and pain was not controlled by medication, and 12 (4.5%) had pain that disrupts activity but pain medication not taken.

  Cross-tabulations for Pain, Disruption versus Medication; the $\chi^2 = 60.6810$, DF = 2, $P < 0.0001$, and n = 264.

The cross-tabulations for Participant's, Pain; Character versus Medication:

- 73 (28%) had no pain;
- 60 (23%) had pain at a single site and controlled by medication, 32 (12%) had pain at a single sites and pain not controlled by medication, and eight (3%) had pain at a single site but pain medication not taken;
- and 35 (13.5%) had pain over multiple sites and controlled by medication, 45 (17%) had over multiple sites and pain not controlled by medication, and 11 (4%) had over multiple sites but pain medication not taken.

  Cross-tabulations for Pain, Character versus Medication; the $\chi^2 = 67.2113$, DF = 4, $P < 0.0001$, and n = 264.

(For the full Tables and Cross-Tabulations above see Appendix B, pg 115).

3.39 Danger and Frequency of Falls:

The 264 participants were assessed the number of times they had fallen in the last 90 days (or since last assessment if less than 90 days), see Figure 3.17:

- 174 (66%) had not fallen;
- 52 (20%) had fallen once;
- 23 (9%) had fallen twice;
- nine (3%) had fallen three times;
- one (0.5%) participant had fallen four times;
- no participant fell five times;
- no participant fell six times;
- two (1%) had fallen seven times;
- one (0.5%) participant fell eight times;
- and two (1%) fell nine or more times;

(Refer to Discussion, Section 4.6, pg 89, for summary of results).

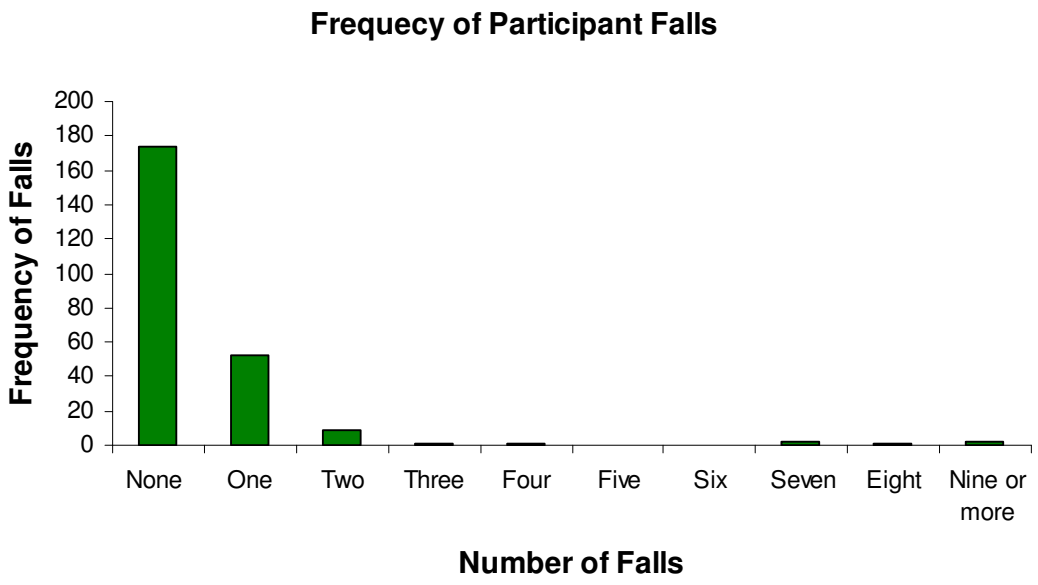


Figure 3.17: The reported Frequency at with the 264 participants Fell, in the last 90 days. Note: Cumulative Total of Falls is 69 (26%) i.e. the percent fallen one or more times.

The next two questions were coded for danger of falling. The 264 participants, were assessed if they have an unsteady gait; for 111 (42%) reported they did not have an unsteady gait; but for 153 (58%) they did have an unsteady gait.

The 264 participants, were assessed if they limit going outside and other activities e.g. using the bus because of a fear of falling; 199 (75.5%) did not limit their activities because of this fear; but 65 (24.5%) did limit their activities because of this fear.

Cross-Tabulations of Danger and Frequency of Falls:

The cross-tabulations for Participant's, Falls; Unsteady Gait versus Limits Activity:

- 103 (39%) do not have an unsteady gait or limit going outdoors for fear of falling, and eight (3%) do not have an unsteady gait but limit going outdoors for fear of falling;
- and 96 (36.5%) do have an unsteady gait but do not limit going outside for fear of falling, and 57 (21.5%) do have an unsteady gait and do limit going outside for fear of falling.

The cross-tabulations for Falls, Unsteady Gait versus Limits Activity; the χ^2 = 31.2949, DF = 1, P < 0.0001, and n = 264. Note; was also significant for 'Fisher's Exact Test'.

The cross-tabulations for Falls, Limits Activity versus Fall Frequency; the χ^2 = 26.3883, DF = 7, P = 0.0004, and n = 264. Note: treat significance with caution due to small counts.

The cross-tabulations for fall, Unsteady Gait versus Fall Frequency; the χ^2 = 21.1473, DF = 7, P = 0.0036, and n = 264. Note: treat significance with caution due to small counts.

(For the full Tables and Cross-Tabulations above see Appendix B, pg 123).

3.40 Drinking and Smoking:

The 264 participants, were assessed was their drinking in excess that others said to cut the drinking down, in the last 90 days (or since last assessment if less than 90 days): for 260 (98.5%) this was not the case; but for four (1.5%) this was the case, i.e. others had mentioned cutting down their drinking.

The 264 participants, were assessed if they needed an early morning drink or got in trouble because of drinking in the last 90 days (or since last assessment if less than 90 days): for 263 (99.5%) this was not the case; but for one (0.5%) participant this was the case.

The 264 participants were assessed have they smoked or chewed tobacco daily; 245 (93%) participants did not smoke; but 19 (7%) did use tobacco.

3.41 Health Status:

The 264 participants, were assessed do they feel in poor health; 203 (77%) do not feel in poor health; but 61 (23%) do feel in poor health.

The 264 participants, were assessed do they have conditions or diseases that make well being (e.g. ADL, mood and behaviour) change or deteriorate; 230 (87%) do not have conditions or diseases that alter their well-being; but 34 (13%) do have conditions or diseases that can alter their well-being.

The 264 participants, were assessed is their chronic or a recurrent problem flaring up? 240 (91%) do not have a chronic or recurrent problem; and 24 (9%) do have a chronic or recurrent problem.

The 264 participants, were assessed have their treatments changed in the last 30 days (or since last assessment if less than 30 days); 219 (83%) have not changed treatments; but 45 (17%) have had a change in treatments/care.

The 264 participants were assessed do they have a condition or disease, such that they have only six months to live: 261 (99%) do not have a life threatening condition or disease; but three (1%) do have a life threatening/terminal condition or disease.

The 264 participants were assessed if they have none of the above: 108 (41%) reported having one or more of the above health status indicators; and 156 (59%) did not have the above.

3.42 Other Health Indicators:

The 264 participants, were assessed are they fearful of a family member or helper? 263 (99.5%) are not fearful of a relative or helper; but one (0.5%) participant, was fearful of a relative or helper.

The 264 participants, were assessed do they have unusually poor hygiene? 264 (100%) have adequate hygiene; and no participants have poor hygiene.

The 264 participants, were assessed do they have unexplained injuries, such as bruises, burns and broken bones? all 264 (100%) do not have unexplained injuries; and no participants, have unexplained injuries.

The 264 participants, were assessed are they neglected, abused or mistreated? 264 (100%) are not abused or neglected; and no participants, were abused or neglected.

The 264 participants, were assessed are they physically restrained, e.g. to bed rails or to a chair? 264 (100%) were not physically restrained; and no participants were physically restrained.

The 264 participants were assessed if none of the above applied: one (0.5%) participant was one of the above; but 263 (9.5%) were not the above.

3.43 Weight:

The following questions were coded for weight items. The 264 participants were assessed if they have lost five percent their body weight in the last 30 days (or ten percent or more weight in the last 180 days): 222 (84%) had not lost weight; but 42 (16%) had lost weight.

The 264 participants were assessed if they were malnourished: 264 (100%) participants were not malnourished; and none had severe malnutrition.

The 264 participants were assessed if they were morbidly obese: 262 (99%) were not morbidly obese; but two (1%) were morbidly obese.

3.44 Food and Liquid Consumption:

The following questions were coded for consumption. The 264 participants, were assessed if they ate one or no meals on two (at least) of the last three days: 247 (93.5%) ate more than this; but 17 (6.5%) participants did eat this amount.

The 264 participants, were assessed if in the last three days, had there been a noticeable decrease in either food or liquid consumption? 259 (98%) participants, had no noticeable decrease; but five (2%) participants, did have a noticeable decrease.

The 264 participants, were assessed if they had consumed insufficient fluid in the last three days: 253 (96%) participants, did consume adequate fluids; but 11 (4%) participants, did not have adequate fluid intakes.

The 264 participants were assessed if they had enteral tube feeding: 264 (100%) participants, did not require tube feeding, i.e. no participants had tube feeding.

3.45 Swallowing:

The 264 participants, were assessed about the physical process of eating of food, and if it was safely swallowed?

Of the 264 participants: 248 (94%) have normal swallowing, i.e. can swallow all foods safely; nine (3.5%) need some diet modification of solid foods required; seven (2.5%) require modification of solid foods and liquids (e.g. puree); no participants required oral and tube feeding; and none had no food intake at all.

3.46 Chewing:

The 264 participants were assessed is there a problem chewing food, e.g. dentures, painful and immobile jaw? 237 (90%) did not have a problem chewing food; and 27 (10%) did have some problems chewing food.

The 264 participants, were assessed if they that had a ‘dry’ mouth; 235 (89%) did not have symptom, and 29 (11%) did have a ‘dry’ mouth.

The 264 participants, were assessed is there a problem with brushing teeth or dentures; 260 (98.5%) did not have a problem with brushing; and four (1.5%) did have a problem with brushing teeth or dentures.

The 264 participants, were assessed if those none of the above apply; for 49 (18.5%) the above applies; and 215 (81.5%) there are no problems, i.e. the above does not apply.

3.47 Dermatology/Skin:

The 264 participants were assessed if there had been past skin conditions or changes in skin condition: 183 (69%) have had no skin problems or changes in skin condition; 81 (31%) have had or have skin problems.

3.48 Ulcers:

The questions below were coded if no ulcer, otherwise record the highest ulcer stage (Stage One-Four). Of the 264 participants, those that have skin ulcers caused by pressure are: 255 (97%) reported having no ulcers; seven (3%) that have Stage One ulcers; no participants have Stage Two ulcers; one (0.5%) participant, has a Stage Three ulcer; and one (0.5%) participant, has a Stage Four ulcer.

Of the 264 participants, those that have skin ulcers caused by stasis were: 253 (96%) participants, reporting having no ulcers; seven (2.5%) that have Stage One ulcers; three (1%) that have Stage Two ulcers; no participants have a Stage Three ulcer; and one (0.5%) participant, has a Stage Four ulcer.

3.49 Other Skin Conditions:

Of the 264 participants, those that have burns, requiring treatment (second and third degree burns) are: 263 (99.5%) had no burns requiring treatment and one (0.5%) did have burns requiring treatment.

Of the 264 participants, those that have other skin lesions are: 259 (98%) did not have skin lesions; and five (2%) did have other skin lesions.

Of the 264 participants, those that have skin tears or cuts are: 256 (97%) did not have skin tears or cuts; and eight (3%) did have skin tears or cuts.

Of the 264 participants, those that have a surgical wound, requiring treatment are: 258 (98%) did not have a surgical wound; but six (2%) did have a surgical wound requiring treatment.

Of the 264 participants, those that have corns, calluses, infections or fungal are: 261 (99%) did not have other skin conditions/problems; but three (1%) did have other skin conditions/problems.

Of the 264 participants, those that have none of the above are: 22 (8%) reported having the above skin conditions; and 242 (92%) have none of the above skin conditions.

3.50 Pressure Ulcers:

Of the 264 participants, those that have had an ulcer but is healed or still have one anywhere on the body, are: 253 (96%) have not had an ulcer and do not have one at present; but 11 (4%) have either had an ulcer or have got one.

3.51 Wound and Ulcer Care/Treatment:

The following questions relate to conditions, checked for formal care in last seven days.

Of the 264 participants, those that have had antibiotics (topical or systemic) in the last seven days are: 256 (97%) did not have antibiotics and eight (3%) did have antibiotics.

Of the 264 participants, those that have had wound dressings in the last seven days are: 239 (90.5%) did not have wound dressings; and 25 (9.5%) did have wound dressings.

Of the 264 participants, those that have had surgical wound care in the last seven days are: 252 (95.5%) did not have surgical care of wounds; but 12 (4.5%) did have surgical wound care.

Of the 264 participants, those that have had other wound care, such as debridement, in the last seven days are: 261 (99%) did not have other wound care/treatment; there were three (1%) that did have other wound care/treatment.

Of the 264 participants, those that have had none of the above in the last seven days are: 39 (15%) had wound care; and 225 (85%) did not have wound care.

3.52 Participants Environment/Home:

Of the 264 participants, those that have a Home Environment which is unsafe or uninhabitable, were assessed on; a. Lighting, b. Flooring, c. Bathroom, d. Kitchen, e. Heating and Cooling, f. Personal Safety, and Access g. Outside and h. Inside the home, (Note; if none apply, then 'none of the above' was the response option, if temporarily in institution base assessment on home visit). This is illustrated in Figure 3.18, (pg 61).

Of the 264 participants, those that had an Inadequate Home Environment Type:

a. Lighting (especially at night) was: 263 (99.5%) had adequate lighting; and one (0.5%) participant, did not have adequate lighting.

b. Flooring, e.g. carpet, rugs, mats, and electrical cables, (especially holes) were: 240 (91%) had adequate flooring surfaces; and 24 (9%) did not have adequate flooring.

c. Bathroom and toilet were inadequate, e.g. leaking pipes, no hand rails that were needed and slippery surfaces (especially outside toilet) were: 243 (92%) had adequate bathroom facilities; but 21 (8%) did not have adequate bathroom facilities.

d. Kitchens, e.g. defunct fridge, stove not working and pests (i.e. rats, insects) were: 263 (99.5%) had adequate kitchens; but one (0.5%) participant, their kitchen facilities were inadequate.

e. Heating and Cooling, (i.e. too hot in summer, too cold in winter), such as wood burners with asthmatics, were: 258 (98%) had adequate heating and cooling methods; and six (2%) did not have adequate heating and cooling methods.

f. Problems with Personal Safety, such as heavy traffic, and neighbourhood unsafe (especially at night) were: 260 (98.5%) felt safe; but four (1.5%) felt unsafe at home.

g. Access Outside the home e.g. lots of stairs, hilly section and unlit, were: 246 (93%) had adequate access to the home; and 18 (7%) did not have adequate home access.

h. Access Inside the home, such as, steep stairs, lack of hand rails and small door openings were: 258 (98%) had adequate access inside the home; and six (2%) did not have adequate access around the home.

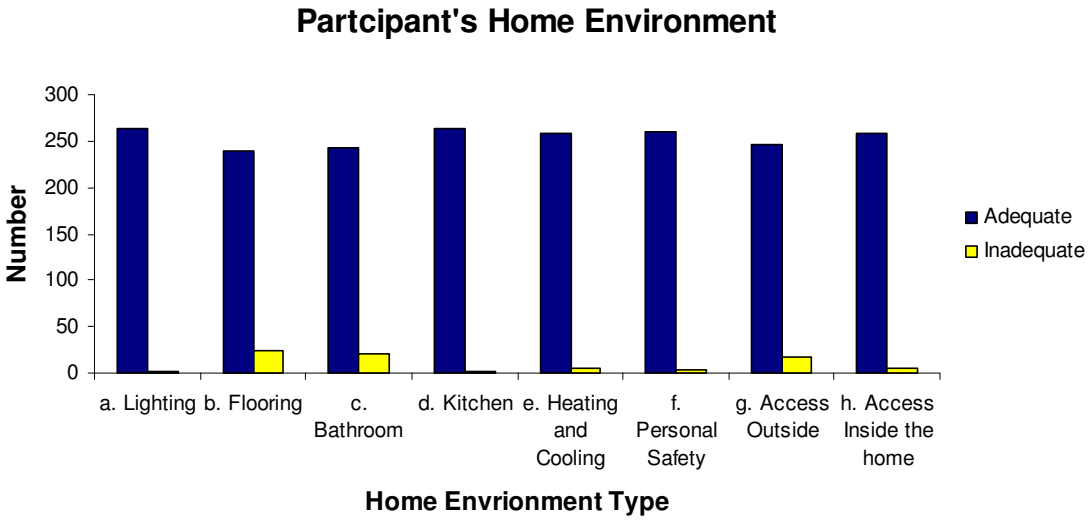


Figure 3.18: Participants Home Environment, whether Adequate or Inadequate.

Of the 264 participants, those that were none of the above were; 57 (21.5%) were the above; and 207 (78.5%) were not the above.

3.53 Living Environment:

The 264 participants, were assessed what if they have moved in with other people or other people have moved in with participant in the last 90 days (or since last assessment if less than 90 days) were: 254 (96%) had not changed living arrangements; but ten (4%) are now living with another person.

The 264 participants, were assessed if they or primary caregiver, personally thinks the participant would be better off in another living environment: for 245 (93%) this is not the case; seven (2.5%) think they would be better off if change living environment; five (2%) the primary caregiver thinks the participant would be better off if moved; and seven (2.5%) both the participants and caregivers think the participants would be better off in a different living environment.

3.54 Health Professional Care:

The 264 participants, were assessed if in the last seven days (or since the last assessment, if less than seven days), what was the amount of help/care by a health professional, that was required/used by participants. These were; a. Personal Care/Support Services, b. Visiting Nurses, c. Housework/Cleaner Services, d. Meals, e. Volunteer Services, f. Physiotherapy Care, g. Occupational Therapy Care, h. Speech and Language Therapy Care, i. Day Care, and Social Worker.

Personal Care/Support Services:

a. Participants care by Personal Care/Support Services (in number of days, and the hours and minutes, required each day) was reported as:

   There were 203 (77%) participants, that required no days; 12 (4.5%) required one day; four (1.5%) required two days; 31 (12%) required three days; no participants required four days; five (2%) required five days; no participants required six days; and nine (3.5%) required all the seven days.

   There were 211 (80%) participants, required no hours; 21 (8%) required one hour; 15 (5.5%) required two hours; eight (3%) required three hours; two (1%) required four hours; no participants required five hours; one (0.5%) participant, required six hours; two (1%) required seven hours; one (0.5%) participant, required eight hours; no participants required nine hours; two (1%) required ten hours; no participants required 11 hours; and one (0.5%) participant, required 12 hours.

   There were 232 (88%) participants, required no minutes; one (0.5%) participant, required ten minutes; six (2%) required 20 minutes; 18 (7%) required 30 minutes; two (1%) required 40 minutes; and five (2%) required 50 minutes.

Visiting Nurses:

b. Participants care by Visiting Nurses (in number of days, and the hours and minutes, required each day) were:

There were 236 (89%) participants, that required no days; 12 (4.5%) required one day; three (1%) required two days; six (2%) required three days; no participants required four days; no participants required five days; no participants required six days; and seven (2.5%) required all the seven days.

There were 249 (94%) participants, required no hours; nine (3.5%) required one hour; and six (2%) required 168 hours.

There were 248 (94%) participants, required no minutes; no participants, required ten minutes; no participants, required 20 minutes; 12 (4.5%) required 30 minutes; two (1%) required 40 minutes; and two (1%) required 50 minutes.

Housework/Cleaner Services:

c. Participants care by Housework/Cleaner Services (in number of days, and the hours and minutes, required each day) were:

There were 135 (51%) participants that required no days; 110 (42%) required one day; 14 (5%) required two days; four (1.5%) required three days; no participants required four days; one (0.5%) participant required five days; no participants required six days; and no participants required all the seven days.

There were 126 (48%) participants, required no hours; 49 (18.5%) required one hour; 72 (27%) required two hours; 13 (5%) required three hours; two (1%) required four hours; one (0.5%) participant required five hours; and one (0.5%) participant, required 30 hours.

There were 226 (85.5%) participants, required no minutes; no participants, required ten minutes; no participants, required 20 minutes; 38 (14.5%) required 30 minutes; no participants, required 40 minutes; and no participants, required 50 minutes.

Meals:

d. Participants required Meals, e.g. meals on wheels (in number of days, and the hours and minutes, required each day) were:

There were 244 (92.5%) participants that required no days; no participants required one day; two (1%) required two days; one (0.5%) participant required three days; one (0.5%) participant required four days; seven (2.5%) required five days; no participants required six days; and nine (3.5%) required all the seven days.

There were 255 (97%) participants, required no hours; five (2%) required one hour; no participants, required two hours; one (0.5%) participant required three hours; no

participants, required four hours; one (0.5%) participant, required five hours; and two (1%) required 21 hours.

There were 258 (98%) participants, required no minutes; no participants, required ten minutes; one (0.5%) participant, required 20 minutes; five (2%) required 30 minutes; no participants, required 40 minutes; and no participants, required 50 minutes.

Volunteer Services:

e. Participants, care by Volunteer Services, (in number of days, and the hours and minutes, required each day) were:

There were 264 (100%) participants that required no days; there were 264 (100%) participants, required no hours; and there were 264 (100%) participants that required no minutes.

Physiotherapy Care:

f. Participants, Physiotherapy Care (in number of days, and the hours and minutes, required each day) were:

There were 253 (96%) participants, that required no days; one (0.5%) participant required one day; one (0.5%) participant required two days; two (1%) required three days; no participants required four days; five (2%) required five days; no participants required six days; and two (1%) required all the seven days.

There were 253 (96%) participants, required no hours; two (1%) required one hour; one (0.5%) required two hours; two (1%) required three hours; no participants, required four hours; four (1.5%) required five hours; no participants, required six hours; and two (1%) required seven hours.

There were 263 (99.5%) participants that required no minutes; no participants, required ten minutes; no participants, required 20 minutes; one (0.5%) participant, required 30 minutes; no participants, required 40 minutes; and no participants, required 50 minutes.

Occupational Therapy Care:

g. Participants, Occupational Therapy Care (in number of days, and the hours and minutes, required each day) were:

There were 259 (98%) participants, that required no days; three (1%) required one day; no participants required two days; one (0.5%) participant required three days; no participants

required four days; one (0.5%) participant required five days; no participants required six days; and no participants required all the seven days.

There were 259 (98%) participants, required no hours; one (0.5%) participant, required one hour; one (0.5%) participant, required two hours; one (0.5%) participant, required three hours; no participants, required four hours; one (0.5%) participants, required five hours; no participants, required six hours; and one (0.5%) participant, required seven hours.

There were 263 (99.5%) participants that required no minutes; one (0.5%) participant, required ten minutes; no participants, required 20 minutes; no participants, required 30 minutes; no participants, required 40 minutes; and no participants, required 50 minutes.

Speech and Language Therapy Care:

h. Participants, Speech and Language Therapy Care (in number of days, and the hours and minutes, required each day) were:

There were 262 (99%) participants, that required no days; no participants required one day; two (1%) required two days; no participants required three days; no participants required four days; no participants required five days; no participants required six days; and no participants required all the seven days.

There were 262 (99%) participants, required no hours; one (0.5%) participant, required one hour; and one (0.5%) participant, required two hours.

There were 264 (100%) participants, that required no minutes; no participants, required ten minutes; no participants, required 20 minutes; no participants, required 30 minutes; no participants, required 40 minutes; and no participants, required 50 minutes.

Day Care:

i. Participants, which required Day Care by other outreach programmes or hospital, usually outside the home (in number of days, and the hours and minutes, required each day) were:

There were 256 (97%) participants, that required no days; five (2%) required one day; two (1%) required two days; no participants required three days; no participants required four days; one (0.5%) participant required five days; no participants required six days; and no participants required all the seven days.

There were 258 (98%) participants, required no hours; five (2%) required six hours; and one (0.5%) participant, required seven hours.

There were 264 (100%) participants, that required no minutes; no participants, required ten minutes; no participants, required 20 minutes; no participants, required 30 minutes; no participants, required 40 minutes; and no participants, required 50 minutes.

Social Worker:

j. Participants, care needed by a Social Worker (in number of days, and the hours and minutes, required each day) were:

There were 264 (100%) participants that required no days; there were 264 (100%) participants, required no hours; and there were 264 (100%) participants that required no minutes.

Professional Care per Day is illustrated in, Figure 3.19 below.

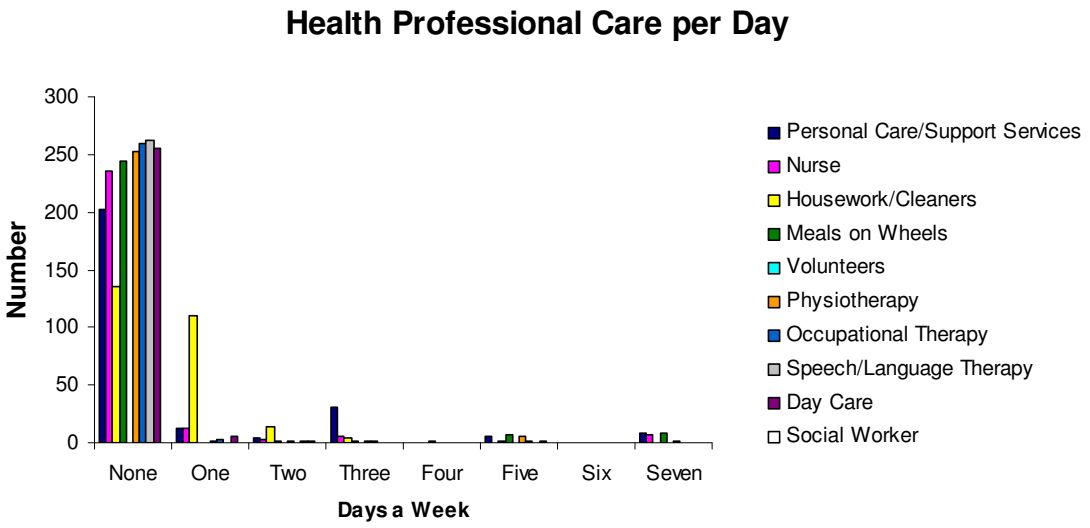


Figure 3.19: The Number of Days a Professional Caregiver helps the 264 participants per week.

3.55 Special Treatments, Therapies or Programmes:

The 264 participants, were assessed in the last seven days (or since the last assessment, if less than seven days), what Special Treatments, Therapies or Programmes, were required/used either in the home or on an outpatient basis. This also includes adherence to the programme, i.e. Scheduled and Full Adherence to Care provided, Scheduled and Partial Adherence, and Scheduled, but Care is not Received, (see Table 3.5, and refer to Discussion, Section 4.8, pg 90, for summary of results).

Table 3.5: Special Treatments, Therapies or Programmes, received for the 264 participants.

Special Treatments, Therapies or Programmes	No Treatment/Care	Treatments/Care is Scheduled and Full Adherence to Care was Achieved
Treatments/Care:		
Respiratory care - oxygen provided	254 (96%)	10 (4%)
- respirator provided	263 (99.5%)	1 (0.5%)
- other forms of respiratory treatment/care	258 (98%)	6 (2%)
Blood transfusions	263 (99.5%)	1 (0.5%)
Dialysis	263 (99.5%)	1 (0.5%)
IV - central infusion	263 (99.5%)	1 (0.5%)
- peripheral infusion	262 (98%)	2 (1%)
Medication by injection	256 (97%)	8 (3%)
Ostomy care	263 (99.5%)	1 (0.5%)
Radiation	264 (100%)	0 (0%)
Tracheotomy care	264 (100%)	0 (0%)
Special diet	248 (94%)	16 (6%)
Therapies:		
Drug and alcohol therapy	264 (100%)	0 (0%)
Chemotherapy	262 (99%)	2 (1%)
Programmes/Care:		
Day care - in a day centre programme	259 (98%)	5 (2%)
Day hospital care	262 (99%)	2 (1%)
Hospice care	263 (99.5%)	1 (0.5%)
Receiving respite care	260 (98.5%)	4 (1.5%)
Physician/GP or clinic visits	250 (94.5%)	14 (5.5%)
Daily nursing care/monitoring in the home	249 (94.5%)	15 (5.5%)

Special Treatments, Therapies or Programmes	No Treatment/Care	Treatments/Care is Scheduled and Full Or Partial Adherence to Care was Achieved	
Therapies:			
Exercise therapy	258 (97.5%)	5 (2%)	1 (0.5%)
Occupational therapy	243 (92%)	19 (7%)	2 (1%)
Physiotherapy	226 (85.5%)	32 (12%)	6 (2%)

Special Treatments Therapies, or Programmes	No Treatment/Care	Treatments/Care is Scheduled and Full Or Partial Adherence to Care was Achieved		Treatments/Care is Scheduled but not Received
Less than daily nursing care/monitoring in the home	224 (85%)	37 (14%)	2 (1%)	1 (0.5%)
Participants that wear/have a medic alert bracelet or electronic version	198 (75%)	54 (20.5%)	10 (4%)	2 (1%)
Receiving skin treatment	254 (96%)	9 (3.5%)	0 (0%)	1 (0.5%)
Total Number	155 (59%)	109 (41%)		

Note: Participant numbers, and percentages in brackets.

Treatments/Care and Full Adherence to Care:

For all the questions below, treatments/care is scheduled and full adherence to care was achieved:

There were ten (4%) participants, receiving respiratory care in the form of provided oxygen (i.e. for 254 (96%) it was NA). There is one (0.5%) participant, receiving respiratory care in

the form of a respirator (i.e. for 263 (99.5%) it was NA). There were six (2%) participants, receiving other forms of respiratory treatment/care (i.e. for 258 (98%) it was NA).

There are no participants receiving drug and alcohol therapy (i.e. for 264 (100%) it is NA).

There is one (0.5%) participant, receiving blood transfusions (i.e. for 263 (99.5%) it is NA).

There are two (1%) participants, receiving chemotherapy (i.e. for 262 (99%) it is NA).

There is one (0.5%) participant, receiving dialysis (i.e. for 263 (99.5%) it is NA).

There is one (0.5%) participant, with a central IV infusion (i.e. for 263 (99.5%) it is NA). There are two (1%) participants, with a peripheral IV infusion (i.e. for 262 (98%) it is NA).

There are eight (3%) participants, receiving medication by injection (i.e. for 256 (97%) it is NA).

There is one (0.5%) participant, needing ostomy care (i.e. for 263 (99.5%) it is NA).

There are no participants, receiving radiation (i.e. for 264 (100%) it is NA).

There are no participants, receiving tracheotomy care (i.e. for 264 (100%) it is NA).

Treatments/Care and Full or Partial Adherence to Care:

For all the questions below, treatments/care is scheduled and full or partial adherence to care was achieved:

There are five (2%) participants, receiving exercise therapy and full adherence was achieved; and one (0.5%) participant where partial adherence was achieved (i.e. for 258 (97.5%) it is NA).

There are 19 (7%) participants, receiving occupational therapy and full adherence was achieved; but two (1%) participants where only partial adherence was achieved (i.e. for 243 (92%) it is NA).

There are 32 (12%) participants, receiving physiotherapy and full adherence was achieved; but six (2%) participants where only partial adherence was achieved (i.e. for 226 (85.5%) it is NA).

Treatments/Care and Full Adherence to Care:

For all the questions below, treatments/care is scheduled and full adherence to care was achieved:

There are five (2%) participants, receiving day care, in a day centre programme (i.e. for 259 (98%) it is NA).

There are two (1%) participants, receiving day hospital care (i.e. for 262 (99%) it is NA).

There is one (0.5%) participant, receiving hospice care (i.e. for 263 (99.5%) it is NA).

There are 14 (5.5%) participants, that received, physician/GP or clinic visits (i.e. for 250 (94.5%) it is NA).

There are four (1.5%) participants, receiving respite care (i.e. for 260 (98.5%) it is NA).

There are 15 (5.5%) participants, receiving daily nursing care/monitoring in the home, e.g. for urinary outputs, ECG readings (i.e. for 249 (94.5%) it is NA).

Treatments/Care and Full or Partial Adherence to Care, Scheduled but not always Received:

For all the questions below: treatments/care is scheduled and full or partial adherence to care was achieved; and treatments/care was scheduled but not received:

There are 37 (14%) participants, receiving less than daily nursing care/monitoring in the home and full adherence was achieved; but two (1%) participants achieved only partial adherence; and one (0.5%) participant, where care was scheduled but not received, (i.e. for 224 (85%) it is NA).

There are 54 (20.5%) participants that wear/have a medic alert bracelet or electronic version and full adherence was achieved; but there were ten (4%) participants, where only partial adherence was achieved; and two (1%) participants, where it was scheduled but not achieved, (i.e. for 198 (75%) it is NA).

There are nine (3.5%) participants, receiving skin treatment and full adherence was achieved; there were no participants where only partial adherence to care was achieved; but there was one (0.5%) participant, where care was scheduled but not received, (i.e. for 254 (96%) it is NA).

Treatments/Care and Full Adherence to Care:

For all the questions below, treatments/care is scheduled and full adherence to care was achieved:

There are 16 (6%) participants, receiving a special diet (i.e. for 248 (94%) it is NA).

The Treatments, Therapies and Care are illustrated in Figure 3.20.

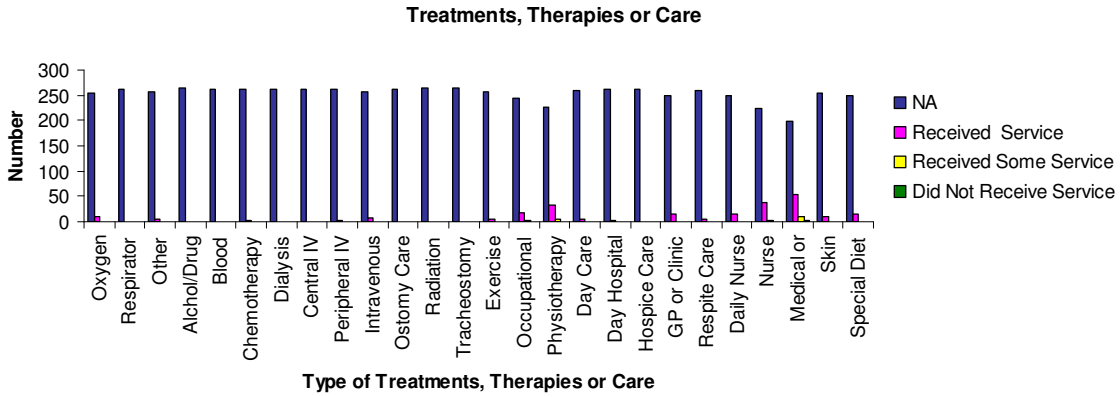


Figure 3.20: Therapies, Treatments or Care: and whether participants received the scheduled service or did not receive services.

Of the 264 participants, none of the above applies: for 155 (59%) participants the above did not apply; and for 109 (41%) participants, the above did apply.

3.56 Use of Medical Equipment:

The 264 participants were assessed what their current status (the last three days), for oxygen: 252 (95.5%) did not use oxygen; five (2%) could manage the oxygen equipment themselves; no participants, managed themselves with verbal or visual cues; five (2%) managed the oxygen equipment with some help from others; but two (1%) could not manage the oxygen equipment and it was fully performed by others.

The 264 participants were assessed what their current status (the last three days for an intravenous (IV) drip or push: 261 (99%) did not use an IV; no participants, could manage the IV equipment themselves; no participants, managed themselves with verbal or visual cues; no participants, managed the IV equipment with some help from others; but three (1%) could not manage the IV and was fully performed by others.

The 264 participants were assessed what their current status (the last three days), for a urinary catheter: 251 (95%) did not use a catheter; two (1%) could manage the catheter equipment themselves; no participants, managed the catheter themselves with verbal or visual cues; two (1%) managed the catheter equipment with some help from others; but nine (3.5%) could not manage a urinary catheter and it was fully performed by others.

The 264 participants were assessed what their current status (the last three days), for an ostomy bag: 262 (99%) did not use an ostomy; no participants, could manage the ostomy

equipment themselves; no participants, managed themselves with verbal or visual cues; one (0.5%) participant, managed the ostomy bag with some help form others; and one (0.5%) participant, could not manage the ostomy bag and was fully performed by others.

3.57 Frequency of Hospital Visits:

The 264 participants were assessed in the last 90 days (or since last assessment if less than 90 days), what the number of times that medical help was required, this was coded from zero (none) to nine (or more than nine) visits.

The 264 participants, were assessed the number of times they were admitted to hospital (i.e. that required an overnight stay): 176 (67%) were not admitted to hospital; 72 (27%) were admitted once to hospital; 14 (5%) were admitted twice; no participants were admitted three times; two (1%) were admitted four times to hospital; but no participants were admitted five times or more than fives times (i.e. includes nine times or more).

The 264 participants, were assessed the number of times they visited the Emergency Department (E.D.), (i.e. that did not require an overnight stay): 259 (98%) did not visit the E.D.; four (1.5%) visited the E.D. once; no participants, visited twice; no participants visited three times; no participants, visited the E.D. four times; no participants, visited the E.D. five times; one (0.5%) participant, visited six times to the E.D.; but no participants visited seven times or more than seven times (i.e. includes nine times or more).

The 264 participants, were assessed the number of times they required emergent care (e.g. nurse visit, physician/GP visit, or other therapeutic visit, to office or home): 253 (96%) did not require emergent care; ten (4%) needed emergent care once; one (0.5%) participant, needed emergent care twice; but no participants, needed emergent care three times or more than three times (i.e. includes nine times or more).

The frequency of Participant's Non-Routine Care Visits is illustrated in, Figure 3.21 below.

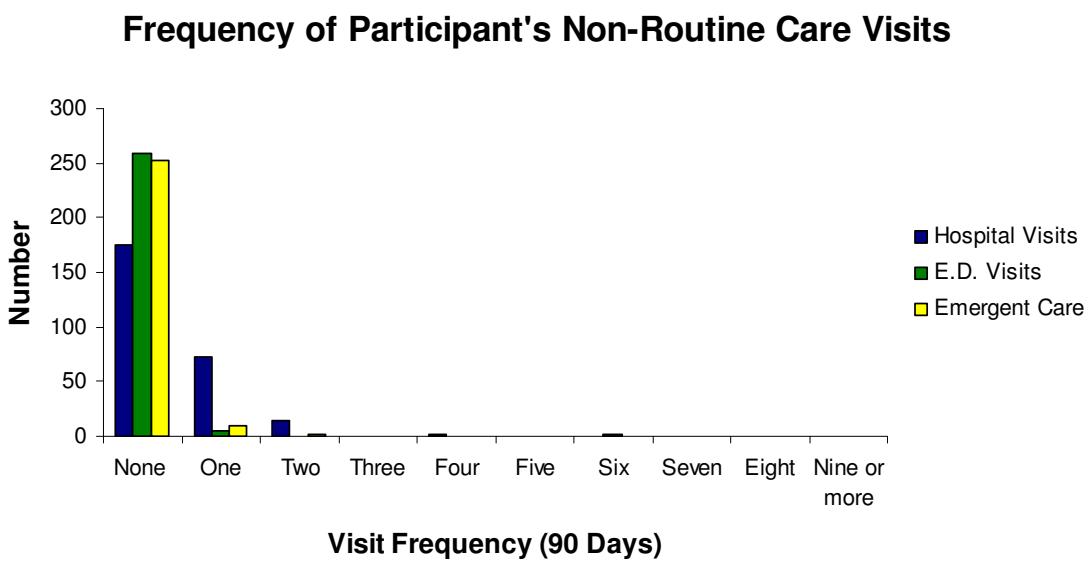


Figure 3.21: The frequency of Emergency Care required by the 264 participants over the last 90 days.

3.58 Treatment Goals:

The 264 participants, were assessed in the last 90 days (or since last assessment if less than 90 days), have treatment goals been reached or achieved? For 216 (82%) participants treatment goals have not been reached; but for 48 (18%) their treatment goals have been achieved or reached. Hence, the vast majority of participants (eight out of ten participants) reported that treatment goals were not reached. (Refer to Discussion, Section 4.9, pg 92, for summary of results).

3.59 Overall Treatment or Care Changes:

The 264 participants, were assessed by asking has self-sufficiency changed significantly, in the last 90 days (or since last assessment if less than 90 days)? For 117 (44.5%) participants there had been no change in self-sufficiency (i.e. receives the same support); for seven (2.5%) there had been an improvement in self-sufficiency (i.e. receives less support); and in 140 (53%) there had been a deterioration in self-sufficiency (i.e. needs more support).

3.60 Participant Budgetary Constraints:

The 264 participants, were assessed by asking did they make a 'choice' between treatments or care such as, prescribed medications, home heating, Physician/GP visit, decrease food and stop home care, because of limited funds? For 257 (97.5%) participants, have not reduced their care because of money/budget constraints; but seven (2.5%) have reduced their care because of money/budget constraints.

3.61 Number of Medications:

The 264 participants were assessed by asking did they use a prescription or over the counter medicines (the number of in regular use) in the last seven days (or since the last assessment if less than seven days), the Number of Medications per participant is presented in Figure 3.22, below. There were:

- 22 (8%) participants, that used no medications,
- nine (3.5%) used one medicine,
- 16 (6%) used two medications,
- 17 (6.5%) used three medications,
- 20 (7.5%) used four medications,
- 22 (8%) used five medications,
- 28 (10.5%) used six medications,
- 24 (9%) used seven medications,
- 35 (13%) used eight medications,
- and 71 (27%) used nine or more medications.

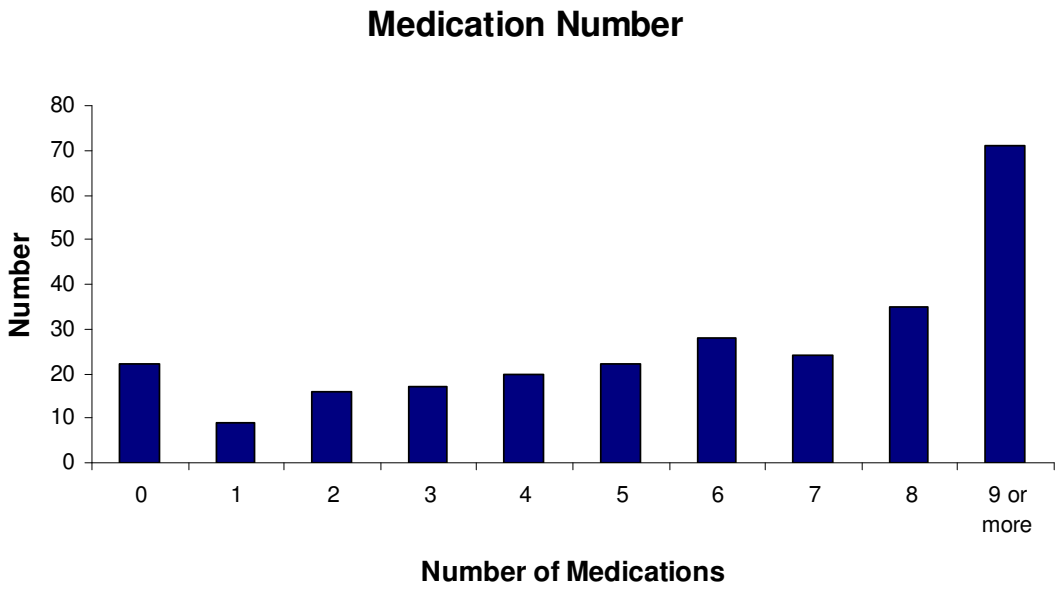


Figure 3.22: The Number of Medications for each participant in the last seven days.

3.62 Psychotropic Medications:

The 264 participants, those that took psychotropic medications in the last seven days (or since the last assessment if less than seven days) were as follows: 253 (96%) did not take an antipsychotic/neuroleptic; but 11 (4%) did; 254 (96%) did not take an anxiolytic; but ten (4%) did; 229 (87%) did not take an antidepressant; but 35 (13%) did; and 253 (96%) did not take an hypnotic; but 11 (4%) did take an hypnotic.

3.63 Physician Medical Supervision:

The 264 participants, were assessed by asking if the physician/GP reviewed all the participant's, medications as a whole in the last 180 days (or since the last assessment if less than seven days): 253 (96%) had their medications reviewed by at least one physician/GP (or don't take any medication); but 11 (4%) had no review or no single physician/GP reviewed all medications taken.

3.64 Medication Use/Compliance:

The 264 participants, were assessed by asking if they had taken (e.g. dropped down i.e. tailed) their medications as prescribed i.e. compliance by a physician/GP in the last seven days (during and between therapy visits); 239 (90.5%) were always compliant; 19 (7%) were compliant 80% of the time or more than that; three (1%) were compliant less than 80% of the time and included failure to fill prescriptions; and three (1%) had no medications prescribed to them.

3.65 Why are participants having Non-Routine Visits to Hospitals?

This section examines the relationships between the Non-Routine Visits to Hospital in the last 90 days or since the last assessment i.e. hospital admissions and demographic factors; and what are the relationships between hospital admissions (and demographic factors) and informal supports; and what are the relationships between hospital admissions (and demographic factors) and Number of Medications used by participants, (For the full Statistics and Cross-Tabulations below see Appendix B, pg 124 and refer to Discussion, Section 4.10, pg 93, for a summary of results).

a. Is there a relationship between Gender, Age, Ethnicity, Marital Status, and Language (English or Maori) important? Yes, Marital Status.

   The cross-tabulations for Martial Status by Frequency of Non-Routine Hospital Visits; the $\chi^2 = 37.7861$, DF = 15, P = 0.0010, and n = 264. Note: treat significance with caution due to small counts.

b. Are Non-Routine Visits to Hospital in the last 90 days or since last assessment against the new variables, of Informal Helpers important? There is almost a significant relationship between, the relationships of the Primary Caregivers to participants versus the frequency of visits to the ED.

The cross-tabulations for Relationship of Primary Caregivers by Frequency Visits to ED; the χ^2 = 12.1025, DF = 6, and an almost significant P = 0.0597, and n = 260. Note: treat significance with caution due to small counts, (Note; Effective n = 260, as four participants have no primary caregivers).

c. The Number of Medications required versus Non-Routine Visits to Hospital, was this also important? No relationship was obtained between Medications and Non-Routine Visits to Hospital.

3.66 Why are participants moving between Residential Types?

From the group that have been reassessed once - Time Two Series (42 participants) Note; n = 84, due to both assessment times for each participant (For the full Statistics and Cross-Tabulations below see Appendix B, pgs 125-135 and refer to Discussion, Section 4.11, pg 93, for a summary of results).

There are 42, participants, ten (24%) are males and 32 (76%) are females. Of the 42 participants, two (5%) are European, 35 (83%) are New Zealand European and five (12%) are Other European. Of the 42 participants, five (12%) have never married, 14 (45%) are married and 13 (43%) are widowed.

3.66.1 What are the factors involved in changing Residential Type between assessments.

a. If there was a change in Residential Type what do these participants look like (i.e. Gender, Age, Ethnicity, Marital Status, and Language (English or Maori) and is there a relationship with the demographic factors. Yes, the below relationships were significant.

The cross-tabulations for Gender (When gender is Female) by Residential Type; the χ^2 = 36.5000, DF = 4, P < 0.0001, and n = 64. Note: treat significance with caution due to small counts.

The cross-tabulations for Estimated Birth Date (when not estimated) by Residential Type; the χ^2 = 44.2629, DF = 4, P < 0.0001, and n = 74. Note: treat significance with caution due to small counts.

The cross-tabulations for Ethnicity (when ethnicity is NZ European) by Residential Type; the χ^2 = 39.3263, DF = 4, P < 0.0001, and n = 70. Note: treat significance with caution due to small counts.

The following are cross-tabulations for Language by Residential Type, where the; DF = 4, and n = 84, (Note: treat significance with caution due to small counts):

- when language type is English; the χ^2 = 46.9111, P < 0.0001;
- when primary language is English; the χ^2 = 46.9111, P < 0.0001;
- and when no interpreter is needed; the χ^2 = 46.9111, P < 0.0001.

b. What is the relationship of Residential Type with Informal Primary and Secondary Helpers, the living arrangements and relationship with the participant? Yes.

The following are cross-tabulations for Primary Informal Caregivers by Residential Type (Note: treat significance with caution due to small counts):

- when participants have emotional support from caregiver; the χ^2 = 42.7057, DF = 4, P < 0.0001, and n = 79;
- when participants have IADL care from caregiver; the χ^2 = 36.2862, DF = 4, P < 0.0001, and n = 69;
- when participants have ADL care from caregiver; the χ^2 = 9.6168, DF = 4, P = 0.0474, and n = 23;
- when caregivers can continue care to participants; the χ^2 = 41.6027, DF = 4, P < 0.0001, and n = 76;
- and when caregivers do have enough support from other family or friends; the χ^2 = 46.9111, DF = 4, P < 0.0001, and n = 84.

The cross-tabulations for Secondary Informal Caregivers (when participants have no such helper) by Residential Type; the χ^2 = 27.3333, DF = 4, P < 0.0001, and n = 34. Note: treat significance with caution due to small counts.

c. Is there a relationship of Residential Type with Pain and reason for Falls? Yes. (Note: treat all the significant results below with caution due to small counts).

The cross-tabulations for Fall Frequency by Time; the χ^2 = 12.7474, DF = 5, P = 0.0259, and n = 84.

The cross-tabulations for Fall Frequency (when frequency equals none) by Residential Type; the χ^2 = 48.8065, DF = 4, P < 0.0001, and n = 57.

The cross-tabulations for Unsteady Gait (when participants have an unsteady gait) by Residential Type; the $\chi^2 = 27.1575$, DF = 4, $P < 0.0001$, and n = 51.

The cross-tabulations for Fear of Falling (when participants do not limit going outside for fear of falling) by Residential Type; the $\chi^2 = 39.2669$, DF = 4, $P < 0.0001$, and n = 64.

d. Is there a relationship of Residential Type with ADL Decline? Yes.

The cross-tabulations for ADL Decline by Time:

- 14 (17%) participants had no ADL decline at Time One and 33 (39.5%) participants had no ADL Decline at Time Two;
- and 28 (33.5%) participants had ADL Decline at Time One, but only nine (11%) participants had ADL Decline at Time Two.

The cross-tabulations for Table ADL Decline by Time; the $\chi^2 = 17.4376$, DF = 1, $P < 0.0001$, and n = 84. Note; was also significant for 'Fisher's Exact Test'.

The cross-tabulations for ADL Decline (when participants ADL status has become worse) by Residential Type; the $\chi^2 = 28.1104$, DF = 4, $P < 0.0001$, and n = 37. Note: treat significance with caution due to small counts.

e. Is there a relationship of Residential Type with Bladder and Bowel? Yes.

The cross-tabulations for Bladder Continence (when participants did not use a urinary catheter) by Residential Type; the $\chi^2 = 45.9350$, DF = 4, $P < 0.0001$, and n = 78. Note: treat significance with caution due to small counts.

The cross-tabulations for Bladder Continence (when participants did use a bladder device e.g. nappies) by Residential Type; the $\chi^2 = 19.0667$, DF = 4, P = 0.0008, and n = 34. Note: treat significance with caution due to small counts.

3.66.2 If Residential Type has changed what else has changed? (The data used was Time series One and Two data only, i.e. 42 participants).

a. If Residential Type has changed has there been a change in Primary or Secondary Caregiver? No.

b. If Residential Type has changed has there been a change in Bladder and Bowel Continence? No.

c. If Residential Type has changed has there been a change in decision making? Yes.

The cross-tabulations for Memory (when participants decision making has become worse) by Residential Type; the $\chi^2 = 10.1786$, DF = 4, P = 0.0375, and n = 15. Note: treat significance with caution due to small counts.

d. If Residential Type has changed has there been a change in the Home Environment, e.g. home heating, access to the home and operational kitchen? Yes, see Table 3.6.

The cross-tabulations for Home Environment, Access to Home by Time; the $\chi^2 = 3.8961$, DF = 1, P = 0.0484, and n = 84. Note: treat significance with caution due to small counts. Note; was also significant for 'Fisher's Exact Test'.

Table 3.6: The cross-tabulations for Home Environment by Residential Type, (Note: treat significance with caution due to small counts), the DF = four, for all a-h.

Environment Type	Chi-Squared χ^2	P Value	Number
a. Lighting (when participants lighting was adequate)	45.9057	< 0.0001	83
b. Flooring (when participants flooring and carpets were adequate)	37.6184	< 0.0001	73
c. Bathroom (when participants bathroom and toilet were adequate)	41.1421	< 0.0001	77
d. Kitchen (when participants kitchen was adequate)	46.9111	< 0.0001	84
e. Heating and Cooling (when participants heating and cooling were adequate)	45.5925	< 0.0001	80
f. Personal Safety (when participants did not fear for personal safety)	46.9111	< 0.0001	84
g. Access Outside (when participants could access the home without difficulty)	42.1109	< 0.0001	77
h. Access Inside (when participants could access rooms in the home without difficulty)	44.8986	< 0.0001	82

The cross-tabulations for Home Environment (when participants were not the above) by Residential Type; the $\chi^2 = 34.4588$, DF = 4, P < 0.0001, and n = 65. Note: treat significance with caution due to small counts.

e. If Residential Type has changed has there been a change in Pressure or Stasis Ulcers? No, change in Ulcers, but some participants have changed Residential Type.

The cross-tabulations for Ulcers (when participants had no pressure ulcers) by Residential Type; the $\chi^2 = 47.9910$, DF = 4, P < 0.0001, and n = 81. Note: treat significance with caution due to small counts.

The cross-tabulations for Ulcers (when participants had no stasis ulcers) by Residential Type; the χ^2 = 42.9206, DF = 4, P < 0.0001, and n = 80. Note: treat significance with caution due to small counts.

The above variables were significant when the participants had no Ulcers (pressure or stasis), but they had changed Residential Type for some other unknown reason.

3.67 Profile of Time Two and Time Three Participants

There were 147 participants that received two assessments with the InterRAI MDS-HC tool, 101 (69%) were females and 46 (31%) were males, (see Figure 3.18). There are five (3.4%) that were European, 123 (84%) were New Zealand-European, 19 (13%) were other European and one (1%) participant was Fijian. Of these participants, 11 (7.5%) were never married, 64 (43.5%) were married, 66 (45%) were widowed, one (1%) was separated, four (3%) were divorced and one (1%) was in another relationship.

The Age and Gender profile of the participants is presented in Figure 3.23 below. Domiciles for the 147 participants assessed two times are illustrated in Figure 3.25, pg 81.

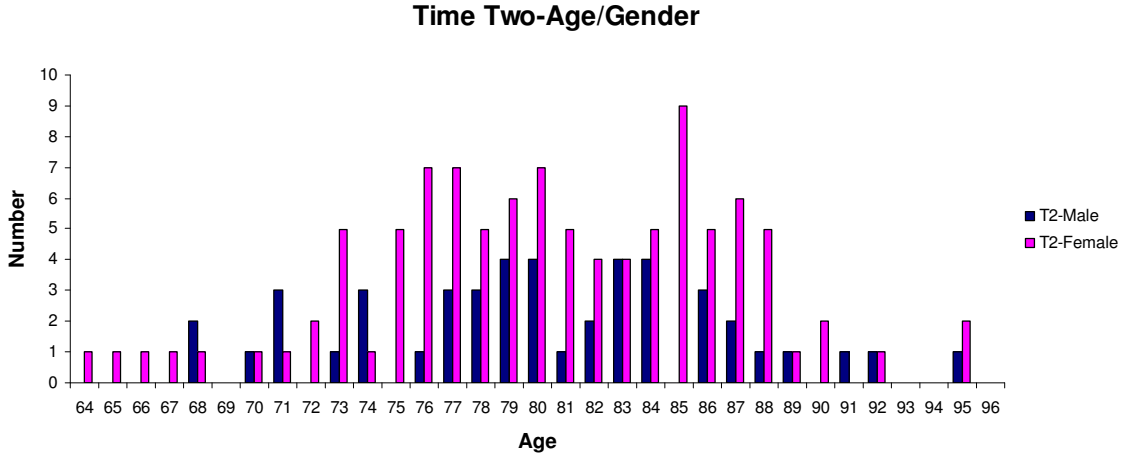


Figure 3.23: The Age and Gender of the 147 participants assessed twice. Note; the unusually high number of Females at age 85 compared to 77 and 80 in the Time One Series data.

There were 65 participants that were assessed three times, 48 (74%) were females and 17 (26%) were males, (see Figure 3.19). Of these participants, two (3%) were European, 54 (83%) were New Zealand-European and nine (14%) were Other European. Of the 65 participants, seven (11%) were never married, 24 (37%) were married, 31 (48%) were

widowed, none were separated, two (3%) were divorced and one (1.5%) was in another relationship.

The Age and Gender profile of the participants is presented in Figure 3.19 below.

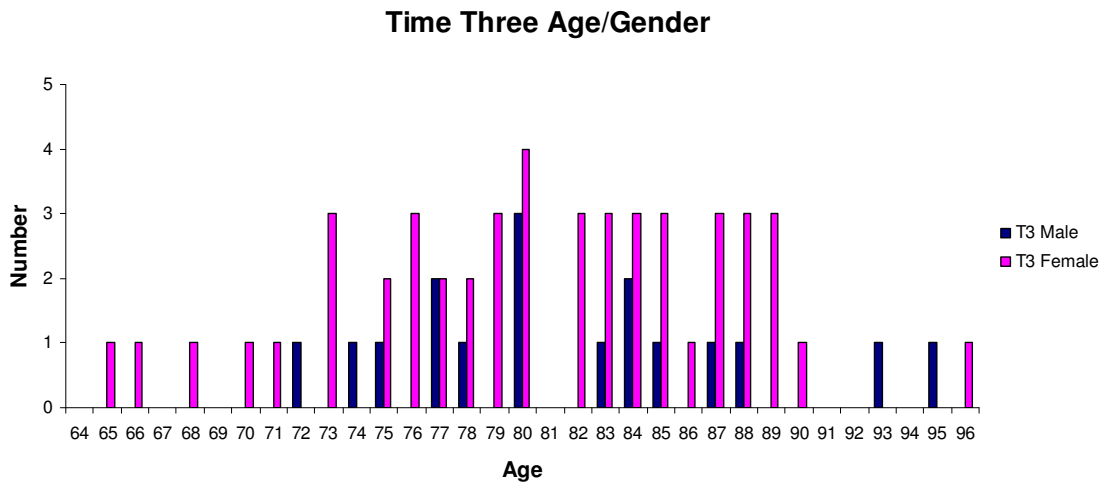


Figure 3.24: The Age and Gender of the 65 participants assessed thrice. Note; the low numbers of Participants for most ages and specifically low numbers of Males.

3.68 Why are participants moving between Domiciles?

Only eight (5.5%) participants of the possible 147 participants that were assessed more than once and moved between assessments, see Table 3.7.

The below table, is of participants that have moved Domicile between assessments, of which six (4%) moved between the first and second assessment and two (3%) moved between the second and third assessment (i.e. of a possible 65 participants that were assessed three times).

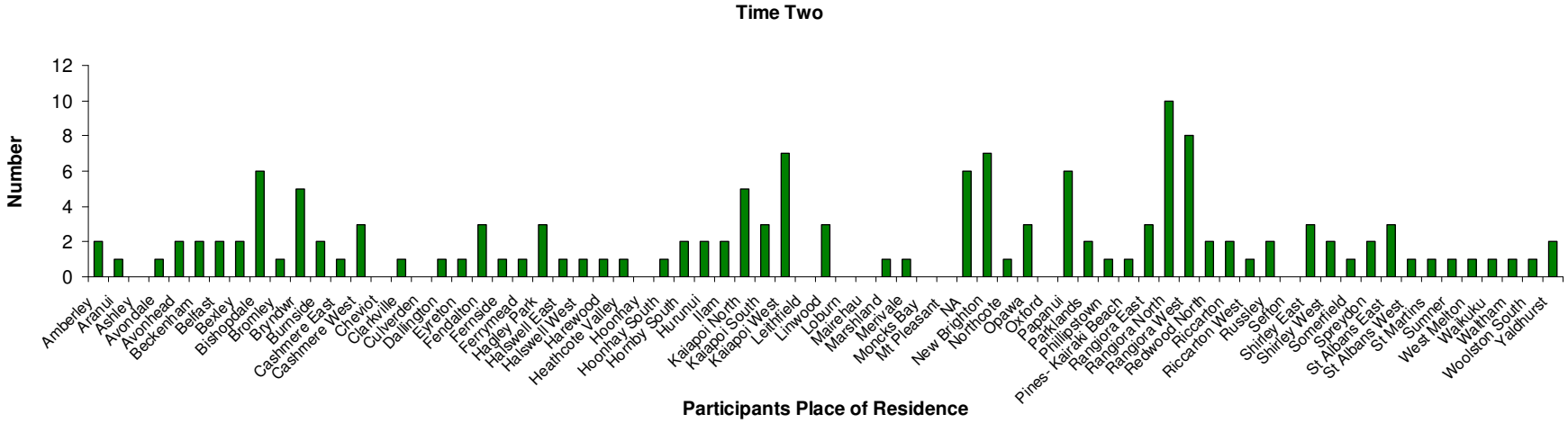


Figure 3.25: Locations in Christchurch and Canterbury for the 147 participants.

Table 3.7: Participant's Domicile movements between InterRAI assessments.

Domicile	Sex	Age	Movement Between		
			Time 1+2	Time 2+3	Time 3 or +
Linwood	*M*	*83*	*1*	*0*	*0*
Belfast	*F*	*88*	*0*	*1*	*0*
Pines B	*M*	*83*	*1*	*0*	*0*
Rangiora W	F	67	0	1	0
Kaiapoi N	*M*	*95*	*1*	*0*	*0*
St Albans W	*F*	*65*	*1*	*0*	*0*
Bishopdale	F	80	1	0	0
Papanui	*F*	*76*	*1*	*0*	*0*
Total			**6**	**2**	**0**

Note: The six (14%) participants (*in italics*) also changed Residential Type, i.e. they are apart of the 42 participants that moved Residential Type as can be seen in Section 3.66, (pg 75).

There is no way of knowing which of the remaining 141 or 63 participants for Time Two and Time Three, that did not move domicile code but moved Residential Type (i.e. apart of the 42 participants in Section 3.66, pg 75).

Chapter 4. Discussion:

The results of the InterRAI Homecare Assessment Process CDHB Pilot, have allowed a detailed analysis of the 264 participants who took part in the trial. Only the first assessment (Time One series data) was able to be analysed for most of the questions and two questions J2 (Diseases ICD-10 scores) and Q5 (Medications, all medications that were taken by participants) were not analysed in this study as their format was not compatible with the rest of the data. The second assessments were only analysed in relation to the 42 participants that had changed residential type between the first and second assessment. Further research on assessments two and three could be carried out, but is unlikely to yield statistically significant results, this is especially so for the further assessments (four, five and six), because of the small participant numbers that were assessed these number of multiple times. However, they might yield useful descriptive information for this subset of clients undergoing multiple and frequent assessments. For example, it might be that this group is being over assessed and hence this is not a good use of resources which could otherwise be directed elsewhere, such as, further new assessments.

Despite our best efforts to ensure the results are as free as possible from potential problems, these results must be treated with some caution- as it is only a pilot study and the results maybe subject to errors such as; the small samples sizes; coding errors due to a lack of understanding; and mistakes and errors in the data entry.

4.1 Comparison of the 264 trial participants with New Zealand Demographics.

The demographics of our 264 participants compared to the general elderly population in the CDHB area can be seen in Tables 4.1 and 4.2. The CDHB has the largest elderly population compared to the other four DHB's, and it can be seen that across all the DHB's the 85 plus age group has a large bias of females compared to males, which was similar to the pilot participants. Also the total number of females (55%) aged 60-85 plus years than males (45%) is much larger in the CDHB population, CCDHB, and Waikato DHB, also have more females than males but by a smaller amount, where as Hutt Valley DHB and Bay of Plenty DHB have similar numbers of both sexes.

Table 4.1: Age Group (60 – 85 +) and Sex by Five District Health Boards (1) from the New Zealand 2006 Census.

Age group and sex	District health board			District health board		
	Bay of Plenty	Hutt	Waikato	Capital and Coast	Canterbury	Total
60–64 years						
Male	7,524	4,863	7,524	5,094	10,437	35,442
Female	5,190	2,928	7,935	5,394	10,680	32,127
Total	10,053	5,808	15,459	10,485	21,117	62,922
65–69 years						
Male	4,356	2,235	6,348	4,065	8,430	25,434
Female	4,782	2,370	6,606	4,467	9,168	27,393
Total	9,141	4,605	12,954	8,535	17,598	52,833
70–74 years						
Male	3,582	1,716	5,148	3,096	6,723	20,265
Female	3,795	1,977	5,364	3,477	7,635	22,248
Total	7,377	3,693	10,512	6,573	14,355	42,510
75–79 years						
Male	3,093	1,425	4,044	2,490	5,880	16,932
Female	3,396	1,716	4,698	3,069	7,395	20,274
Total	6,492	3,141	8,742	5,562	13,275	37,212
80–84 years						
Male	1,971	879	2,436	1,656	3,897	10,839
Female	2,628	1,395	3,435	2,475	5,940	15,873
Total	4,602	2,271	5,871	4,134	9,834	26,712
85 years and over						
Male	1,164	507	1,500	1,032	2,316	6,519
Female	2,127	1,227	3,138	2,277	5,313	14,082
Total	3,294	1,734	4,638	3,312	7,629	20,607
Total						
Male	21,690	11,625	27,000	17,433	37,683	115,431
Female	21,918	11,613	31,176	21,159	46,131	131,997
Total	40,959	21,252	58,176	38,601	83,808	242,796

(Table 4.1, modified from www.stats.govt.nz/census).

The above table (Table 4.1) shows an increase in females to males over 70 years compares well with the CDHB pilot participants.

According to the Table 4.2 below, the 264 participants are under represented for Maori (2%) and Asian (2%), but not Pacific Peoples (0.5%). There are 84% are Europeans, and 11% as New Zealanders, recorded for the CDHB region. This is comparable to the 264 participants in the InterRAI Assessment CDHB pilot given the different ethnic groups used.

Table 4.2: CDHB and Ethnic Group (grouped total responses) (1) by Age Group (60 – 85 +) and Sex (2) from the New Zealand 2006 Census.

District health board and ethnic group	Age group and sex																		Age group and sex		
	60–64 years			65–69 years			70–74 years			75–79 years			80–84 years			85 years and over			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Canterbury																					
European	8,019	8,475	16,494	6,720	7,482	14,199	5,622	6,525	12,147	5,169	6,588	11,760	3,528	5,355	8,883	2,115	4,827	6,945	31,173	39,252	70,428
Māori	369	315	687	252	234	483	147	141	291	90	96	186	39	42	78	9	24	33	906	852	1,758
Pacific peoples	87	102	189	75	72	150	39	36	75	21	24	48	9	15	24	3	9	9	234	258	495
Asian	261	276	537	204	237	441	120	147	264	90	69	159	42	48	90	21	36	57	738	813	1,548
Middle Eastern/Latin American/African	18	21	42	12	12	24	3	12	15	3	6	9	0	6	9	0	0	3	36	57	102
Other Ethnicity																			0	0	0
New Zealander	1,713	1,590	3,303	1,200	1,185	2,385	756	753	1,509	501	564	1,065	225	417	642	129	348	477	4,524	4,857	9,381
Other 'Other' Ethnicity	0	0	0	6	3	6	0	3	3	3	0	3	0	0	0	0	0	0	9	6	12
Total, Other Ethnicity	1,713	1,590	3,303	1,203	1,188	2,391	759	753	1,509	504	567	1,068	225	417	642	129	348	477	4,533	4,863	9,390
Total people stated	10,164	10,413	20,574	8,235	8,949	17,184	6,546	7,437	13,980	5,748	7,206	12,954	3,780	5,787	9,567	2,253	5,184	7,434	36,726	44,976	81,693
Total people, not elsewhere included(3)	273	270	540	192	222	414	177	195	375	135	183	318	111	153	264	63	132	195	951	1,155	2,106
Total people	10,437	10,680	21,117	8,427	9,168	17,595	6,723	7,632	14,355	5,880	7,392	13,275	3,894	5,937	9,834	2,316	5,313	7,629	37,677	46,122	83,805

(Table 4.2, modified from www.stats.govt.nz/census).

Key Results:

The 'Results' are discussed under the following key areas, (Sections 4.2-4.9 refer to Results Sections 3.1-3.64 and Methods Section 2.1; Section 4.10 refers to Results Section 3.65 and Methods Section 2.2; Section 4.11 refers to Results Section 3.66 and Methods Section 2.3; Section 4.12 refers to Results Section 3.67 and Methods Section 2.5; and Section 4.13 refers to Results Section 3.68 and Methods Section 2.6):

4.2 Participant Demographics:

There was a good range of ages covered by the assessment, but there were two times as many females as males (see Table 4.1). Participants were all English speaking and also mainly New Zealand European's ethnicity of which most are married or have been married but their partner is deceased. Just over half of the participants were New Zealand citizens or permanent residents. The participants came from urban areas (i.e. suburbs of Christchurch), small towns (e.g. Rangiora and Kaiapoi) and rural areas (e.g. Hurunui and Waikuku) in the CDHB area. Only eight (5.5%) participants had changed locality in the two years of being assessed (out of 147 possible participants), of which six (14%) were of the 42 participants that had also changed residential type. These 42 participants mainly changed from a private residence without home care help to a private residence with help or vice versa and there were some that changed from one of these to a residential care facility. The frequency of change seemed low given the group under investigation.

Most of the participants were assessed for community support needs and thus most participants assessed remained at home, only a few needed facility placement.

A third of participants were in hospital, a third had not been in hospital and the last third had been in hospital between the last seven to 180 days.

There were about 90% of participants that lived at home with or without care, they lived alone or with a close relative and they had not moved domicile in the last two years.

4.3 Participant's Behaviour and Mental Levels:

Most participants, had good memory, good decision making skills (i.e. that were reasonable and safe), had no change in mental functioning and were not a danger to themselves or others. Also most participants were able to be understood and had clear comprehension of verbal information, only about 10% of participants had changed communication in the last 90 days.

About 90% of participants were not depressed or felt sad, the other participants felt like this sometimes or all the time. Over 90% of participants were not angry, did not have unrealistic fears or were not over anxious about health. There was also no complaints about

normal activities and no display of depressed facial expressions, no recurrent crying, no withdrawal from activities and social interaction. About 90% of participants had no change in mood, but for 10% their mood had declined over the last 90 days or since the last assessment.

Over 99% of participants did not: wander, verbally or physically abuse others, display other behaviourally problems, refuse care and have a decline in behaviour.

About 95% of participants were open with others, but the same amount could not openly express anger or conflict with family or friends. About 70% of participants had no decline in social activity, but 30% did have a decline and half of these participants were worried.

About 20% of participants felt lonely, there were about 50% participants that were alone for long periods and about 10% that were alone all day.

4.4 Participant's Caregivers:

About 98% of participants have a primary helper, but only 60% have a secondary helper, and most of these do not live with the participants. About 90% of the primary and about 50% of the secondary helpers are a relative of the participant. Of the primary helpers, about 40% are the spouse and live with the participant (only 1% lived with the participant) and 30% are the children or children in law, but do not live with the participant, (only 15% lived with the participant). Most of these secondary helpers were children or children in law. Of the secondary helpers, about 35% were for both children and in law children but they do not live with the participants, only 10% lived with participant.

Most of the primary helpers provided advice and emotional support to participants and 60% of secondary helpers also performed this role. About 80% of IADL help was provided by primary caregivers, and 40% was also provided by the secondary helpers. Only some helpers both primary and secondary provided ADL help to participants.

Over 80% of primary helpers could increase emotional support, along with about 40% of secondary helpers. About 60% of primary helpers and 30% of secondary helpers could increase IADL help for participants. About 50% of primary helpers, but only about 20% of secondary helpers could increase ADL help for participants.

Over 90% of helpers can continue to provide help to participants and over 98% do feel they have support from other relatives and are not angry or depressed.

Most of the Informal Help (both Primary and Secondary) was given to participants over the weekend, between zero to five hours worth of help. If more help (i.e. hours) was given

than this it was more likely to be over the working week (See Table 3.1 and Figure 3.8 in the Results, p 25-6).

4.5 Participants IADL, ADL and Other Activity Levels:

The participants reported their IADL performances and difficulty in the following tasks over seven days; a. Meal Preparation, b. Ordinary Housework, c. Managing Finances, d. Managing Medications, e. Phone Use, f. Shopping, and g. Transportation. For example, about 50% of participants had others doing ordinary housework but were independent in managing finances. About 90% were both independent and had no difficulty with phone use. Similarly for managing medications about 70% of participants were both independent and had no difficulty. Also, for meal preparation about 30% of participants were both independent and had no difficulty with the task and about 25% of participants had others preparing meals as they would have great difficulty with the task.

Participant's IADL of shopping, was reported from: 20% of participants who were independent and had no difficulty with the task, to 27% of participants that needed the task done by others and had great difficulty with the task and 16% had some help and had some difficulty with the task. For example the participants IADL of transport, was reported from: 30% of participants who were independent and had no difficulty with the task, to 37% of participants that needed the task done by others and had great difficulty with the task and 6% had some help and had some difficulty with the task.

Over 80% of participants were independent with these ADL tasks: mobility in bed, moving between sitting and standing, mobility around the home, eating, toilet use and personal hygiene. About 70% of participants were independent in dressing the upper and lower body and with mobility outside the home. There were 50% of participants with an ADL status that was worse than 90 days ago, but for 50% their ADL status was not worse.

Approximately 50% of participants were able to independently walk inside but only 35% of participants were independent walking outside, the other participants used walking devices such as, walking sticks, walking frames and wheelchairs. For 60% of participants they did not use stairs in the previous three days.

About 50% of participants went outside each day, similarly about 50% of participants did more than two hours physical activity (over three days) but 50% did less than this amount.

Either the participants or caregivers believed that, independence could be increased by participants (70%) and functioning potential by approximately 90% of participants and increased health status by 90% of participants.

4.6 Participants Physical Needs/Problems:

The health status of participants was good for about 80% or more of participants, they felt well, did not have conditions that altered well being and did not have chronic or life threatening diseases. Hardly any or none of the participants had other health indicators, such as poor hygiene, unexplained injuries and any sign of neglect.

Most participants had good hearing or were only minimally affected, and this is also true for participant's vision, but some participants could not see regular print.

For approximately 70% of participants they had bladder continence and did not use devices, and 90% of participants were not worse in the last 90 days. Also, 90% of participants were bowel continent.

Participants had high disease levels for arthritis (60%), osteoporosis (30%) and hypertension (45%). For other diseases only approximately 23% or less of participants suffered from them, but almost all participants had at least one chronic disease.

Most participants had the preventative health measures of blood pressure taken and an influenza vaccination, but few had gastro-screening or a mammogram. This would have only been likely to happen for females in the breast cancer screening programme age range, although it can occur for both males and females outside this range.

Of the problem conditions - diarrhoea, urination difficulty, fever, loss of appetite, or vomiting - most participants (approximately 90%) did not report having them in the last three days (or only on one day). For conditions such as chest pain/pressure, no bowel movement, dizzy/light headedness and oedema, some participants had experienced them (approximately 20%) in the last three days.

There were 28% participants that had no pain; of the participants that had pain more than daily, 28% participants had pain at multiple sites and 21% participants had pain controlled by their medication, However, 25% of participants had pain not controlled by medication, and 40.5% participants had pain that disrupts activity. Of the participants that had pain that disrupts activity, 22% had moderate pain, 25% participants had pain at a single site, and 26.5% participants had pain at multiple sites. There are 23% of participants that had pain at a single site that was controlled by medication.

Most participants have not fallen, but 26% have fallen at least once in the last 90 days, about 60% have an unsteady gait and 25% did limit going outside because of a fear of falling, (Note; 22% of these participants also had an unsteady gait). Participants with an unsteady gait fell approximately 60% of the total number of falls where as without an unsteady gait they

only represented approximately 40% of the total number of falls. Participants that limited activity because of a fear of falling only represented 25% of the total number of falls.

Nearly all participants did not drink to excess, but 7% of participants reported smoking.

No lost of weight was recorded in 84% of participants, that had not lost weight. However 16% of participants, had lost weight, none were malnourished and only 1% of participants were obese.

There were about 7% of participants that did not eat a meal (or only one) on two of the last three days; also 2% of participants had decreased food intake and 4% of participants had decreased fluid intake in the last three days.

About 90% of participants do not have a problem swallowing or chewing food and do not suffer from 'dry mouth'. Also nearly all participants can adequately brush teeth or dentures.

About 30% of participants have had skin problems in the past of which 4% have had or still have a skin ulcer. There are 8% of participants with the current skin problems of, ulcers (stasis and pressure), burns, cuts and abrasions, surgical wounds or skin infections. Of the participants, 15% have had wound care such as antibiotics, wound dressings and surgical wound care.

4.7 Participant's Home Environment:

Of the 264 participants, about 90% or more have a Home Environment which is safe or habitable, and the participants were assessed on: lighting, heating/cooling, home access, flooring, adequate kitchens, adequate bathrooms and toilets and personal safety.

Most participants had not changed living environments in the last 90 days, but for approximately 7% of participants, either the participant or caregiver and/or both the participants and caregivers think the participants would be better off in a different living environment.

4.8 Participant's Professional Health Care and Treatments:

There are no participants receiving volunteer care or a social worker at home. In other types of professional care, participants are not receiving: personal care/support services, about 80% of participants do not receive this; about 90% of participants did not receive visiting nurses or required meals; for housework/cleaner services 50% of participants do not receive this; over 95% of participants do not receive physiotherapy care, occupational therapy care, speech and language therapy care and day care by other outreach programmes or the hospital, (usually

outside the home). Note; of the 50% of participants that receive housework/cleaner services, about 40% have one day of care per week.

Of the participants that could be receiving special treatments, therapies or cares, there were none receiving the following:

- drug and alcohol therapy,
- and radiation and tracheotomy care

There are one or two participants receiving the following special treatments, therapies or care:

- respiratory care in the form of a respirator,
- other forms of respiratory treatment/care,
- blood transfusions,
- chemotherapy,
- dialysis,
- a central IV infusion,
- a peripheral IV infusion
- and needing ostomy care

There are participants receiving the following special treatments and therapies:

- 4% participants receiving respiratory care in the form of provided oxygen,
- 3% participants are receiving medication by injection,
- and 6% participants are receiving a special diet

Of participants requiring care only, there are:

- 2% participants are receiving day care (i.e. in a day centre),
- 1% participants are receiving day hospital care,
- 0.5% participants are receiving hospice care,
- 5.5% participants that received, physician/GP or clinic visits,
- 1.5% participants, are receiving respite care,
- and 5.5% participants are receiving daily nursing care/monitoring in the home

Of the participants that are receiving special treatments, therapies or care, there are the following which for some (about 1-2%) participants only partial adherence to the care or treatment was achieved: 2.5% participants, exercise therapy, 8% participants, occupational therapy and 14% participants, physiotherapy.

Of the participants that are receiving special treatments, therapies or care, there are the following; for some (about 1-4%) participants only partial adherence to the care or treatment was achieved, and some participants did not receive the treatments or care at all (i.e. 0.5-1%): 15% participants, received less than daily nursing care/monitoring in the home and full adherence was achieved, 25% participants that wear/have a medic alert bracelet or electronic version, and 4% participants, skin treatment.

For participants use of medical equipment, such as oxygen, IV, urinary catheter and ostomy bag; only the oxygen equipment could be performed by the participants, the others needed help or for it to be performed by others.

Of emergency care required: the number of times participants were admitted to hospital, 33% of participants were admitted one to four times; the number of times they visited the ED, 2% of participants were admitted one to six times; and the number of times they required emergent care, 4.5% of participants were admitted one or two times.

Of the 264 participants, did they use a prescription or over the counter medicines in the last seven days; 8% of participants, used no medications, 64% of participants used one to eight medications, and 27% of participants used nine or more medications.

Those participants that took psychotropic medications in the last seven days were 25% of participants.

Has the physician/GP reviewed the entire participant's medications as a whole in the last 180 days? 96% of participants have had their medications reviewed by at least one physician/GP.

Have participants taken their medications as prescribed? i.e. compliance by a physician/GP in the last seven days; 91% of participants were always compliant, 7% of participants were compliant 80% of the time and 1% of participants complied less than 80% of the time.

4.9 Has Participants Care or Treatments Worked?

For 82% of participants, treatment goals have not been achieved or reached for reasons unknown, although this result needs further exploration as it indicates the most effective treatment regimes might not be being achieved.

Participant self sufficiency has not changed significantly in the last 90 days for 44.5% of participants; for 2.5% of participants there has been an improvement in self sufficiency; and for 53% of participants, there has been a decrease in self sufficiency.

Have participants made a 'choice' between treatments or care; about 98% of participants did not, but 2% of participants did make a choice.

4.10 Why are participants having Non-Routine Visits to Hospitals?

The relationships between the Non-Routine Visits to Hospital in the last 90 days or since the last assessment i.e. hospital admissions and demographic factors (For the full Tables and Statistics below see Appendix B, pg 124), were: martial status versus frequency of non-routine hospital visits; i.e. 12% of participants that were admitted once were married, 13% of participants that were admitted once were widowed and e.g. two participants that were never married visited the hospital four times; and almost significant for the relationship of the primary caregiver to the participant versus frequency visits to ED; e.g. one participant that had only a friend or neighbour visited the ED six times, (i.e. similar reasons for each of hospital and ED visits).

4.11 Why are participants moving between Residential Types?

Most of the participants lived at home, with or without additional care or participants were living, in a board and care/assisted living, a group home and in a residential care facility. (Note: no participants were in other types of residence).

There are 42 participants that have been assessed twice and have changed Residential Type; ten (24%) are males and 32 (76%) are females. Of the 42 participants, two (5%) are European, 35 (83%) are New Zealand European and five (12%) are Other European. Of the 42 participants, five (12%) have never married, 14 (45%) are married and 13 (43%) are widowed.

4.11.1 The factors involved in changing Residential Type between assessments, were:

a. Demographic factors; Gender, Ethnicity and Language.

b. Primary and Secondary Caregivers; For primary caregivers, when participants have emotional support from caregiver, IADL care from caregiver, ADL care from caregiver, can continue care to participants and when caregivers do have enough support from other family or friends. Also for participants that do not have a secondary caregiver.

c. Pain and reason for Falls? There is no pain relationship to Residential Type, but there is a relationship for falls when participants have an unsteady gait.

d. Is there a relationship of Residential Type with ADL decline? Yes, for ADL decline (when participants ADL status has become worse).

e. There was a relationship of Residential Type with Bladder and Bowel? Yes for the use of bladder devices, that was not a urinary catheter.

4.11.2 If Residential Type has changed what else has changed?

a. There has not been a change in Primary or Secondary Caregiver.

b. There has not been a change in Bladder and Bowel Continence.

c. There has been a change in decision making; for participant's memory (when participant's decision making has become worse).

d. There has been a change in the Home Environment, i.e. lighting, heating/cooling, home access, flooring, adequate kitchens, adequate bathrooms and toilets and personal safety; the home environment was significant for participants that do not have an adequate home environment, but this was also significant for an adequate home environment (Note; this was for all types).

e. There has not been a change in Pressure or Stasis Ulcers; as participants did not have ulcers, but some participants have changed Residential Type, so this was significant.

4.12 Profile of Time Two and Time Three Participants

There were 147 and 65 participants assessed at Time Two and Time Three respectively, with the same gender profile as Time One, as was the Ethnicity profile (Note; only the Fijian Participant was assessed twice) but for Martial Status only Time Two distribution was similar. The Martial Status for Time Three was: 11% participants were never married, 37% participants were married, 48% participants were widowed, 3% participants were divorced and 1.5% participants were in another relationship type.

4.13 Why are participants moving between Domiciles?

There were only eight participants of the 147 participants that were assessed twice between 2005 and 2006 that moved domicile. This is a surprising finding as there was an expectation that more participants might have moved between assessments as a result of the re-assessment of their health needs, but in reality this rarely happened and hence is important information for the providers of health and disability services in the CDHB region for the elderly.

In summary, the research is informative for CDHB in the following areas:

- A higher proportion of European's than Maori were assessed in the trial, does this mean that Maori are fit and healthy or are Maori already deceased, given their shorter life expectancy compared to Maori? Are Maori not using health care services? This needs further research.
- More importantly the InterRAI assessment has provided 'difficult to access' information and data, giving a clearer picture of CDHB's Elderly Person Services clients, needs and services utilised. With a paper based system of the past, this was difficult to achieve.
- It is of concern that for the majority participant's care or treatment goals were not achieved. The number of falls in 90 days by participants is a problem, due to the increased likelihood of hip fractures in this age group. The fact that about 40% of participants experienced pain that disrupts activity and 25% of pain was not treated adequately is of concern that requires further investigation.
- Given the problem of psycho-pharmacology, with 25% of participants taking psychotropic medications and 27% of participants were taking nine or more medications over seven days this could be a concern, but most participants had their medications reviewed in a timely manner by a GP, (NZGG, 2003).

Chapter 5. Conclusions:

In conclusion, the InterRAI Homecare Assessment Process CDHB Pilot showed that the assessment of elderly people provided useful information, from an individual participant to all the participants as a whole, plus both informal and formal carer information and service requirements/needs and service providers.

As the results were from a pilot study they must be treated with caution, due to small samples sizes, coding errors and mistakes and errors in the data entry, and analysis of the data.

The results so far have provided new client service information (i.e. needs and use of CDHB services) for the CDHB. But more work is required, such as the client's ethnicity, age, gender, and service requirements. In addition more time dependent data needs to be analysed, such as trend analysis across different assessments.

Overall, the reason for participant movement was ADL Decline. There was also some relationship with participant home environments. Possibly the only reason for a non-routine visit to hospital for a participant was that the participant was alone i.e. no other means of help was available to them. The lack of secondary helpers for participants was also important in both participant movement and non-routine visits to hospital.

Furthermore, for the Inter RAI assessment tool to work in the New Zealand Health System, a consensus between the DHBs, MoH and other elderly care organisations will need to be achieved (e.g. for costs, staff and implementation), along with a collaborative and combined effort of the tasks involved in the assessment of the elderly of New Zealand, to improve health outcomes for this group of New Zealand's citizens and for the most efficient and effective use of the health sector's resources.

Chapter 6. Recommendations:

The results in this thesis must be treated with some caution, due to: small samples sizes; coding errors due to a lack of understanding; and mistakes and errors in the data entry. Time has been spent on ensuring the results are as free as possible from these potential problems. Some of the problems encountered are below and possible recommendations that could resolve them. Further Recommendations can be found in Appendix C, (pg 138).

Please note; that these recommendations refer to the use of the InterRAI assessment tool in the New Zealand context. They arise from our analysis of the CDHB trial and are provided in good faith to help improve the use of the InterRAI assessment tool in New Zealand. Hence, they are directed primarily to the staff that will be conducting InterRAI assessments in the future, in New Zealand and may also be of interest to international users of the InterRAI assessment tool.

6.1 Recommendations for the New Zealand Health System, especially Caring for the Elderly:

6.1.1 Given that overseas data has shown cost and health benefits for using a screening or assessment of elderly and the services they require, this assessment could be instigated at 65 years of age for everyone in New Zealand (at 55 years for Maori, Pacific Islanders, and people with chronic illnesses or disabilities), then at 75 years (with the elderly only being assessed in between if presented at ED or referred by their GP or a Specialist), then assessed at 85 years and every year after that i.e. annually, (NZGG, 2003). If requested by a physician/GP, or Residential Care Facility, the assessment could be done more frequently, for example on an annual basis or when a significant event happens such as a visit to the ED This would give a comprehensive overview of the services and care required by our elderly population and with the standardisation of the assessment should provide both a decrease in Health Care costs and an improvement in health of the elderly population in New Zealand.

6.1.2 Why did the pilot trial with the five DHBs use the InterRAI MDS-HC Canadian 2000 version, when the NZGG recommended the UK InterRAI version as most closely fitting their recommendations? It would be useful to develop a New Zealand version of the InterRAI homecare, rest home and ED assessment questionnaire as soon as possible. This would allow the data collected overall DHBs, PHOs and elderly care organisations to be as consistent as possible throughout New Zealand to provide standardisation of care and health services.

6.1.3 The above should allow consistent training of assessors, these assessors could be registered Health Professionals, such as nurses, public health officers, physicians/GPs and professional Carers? Or people with a Health Science Degree, (NZGG, 2003).

6.1.4 The implementation of electronic records for all elderly people and with possibly one database and software programmes, would allow for standardisation of Elderly Health Care in New Zealand, population screening and forecasting, (NZGG, 2003).

6.1.5 The questionnaire/assessment pilot was reviewed by several New Zealand Ethical Committees for approval? The questionnaire/assessment this should be re-reviewed as the participant is required to consent to the questions and assessment. There was not an ethicist on the NZGG committee recommending the InterRAI assessment method/tool. Thus, given the number of Governmental Acts under which the assessment falls, I would think this to be essential.

6.2 MDS-HC Questionnaire Recommendations:

6.2.1 It would be better if the first sections were not AA, BB and CC, because of the confusion, they could be I, II and III or α, β and δ.

6.2.2 Adding a further question to the questionnaire sheet; so can record WINZ numbers and what benefits they are receiving, e.g. pension, sickness benefit and the unemployment benefit.

6.2.3 Also it would be good if no blanks are left, all filled in with zeros. This is important as some statistical programmes require all non-data recorded as zero, for them to be statistically accurate or even to work at all.

6.2.4 A new variable of age in the data set was created, i.e. HC-BB2 (Birth Date)-Assessment Date, it would be good if the question was also asked or recorded on the questionnaire sheet.

6.2.5 Plus the form itself could do with major tinkering or a rewrite e.g. question set up, how ethical the questions and layout of questionnaire, (e.g. it is obviously confusing and easy to make mistakes).

6.2.6 You could add preventative health measures such as diabetes testing, osteoporosis testing, skin cancer checks and prostrate testing (for males only) to the preventable health measures that are undertaken, in the last two years.

6.3 Further Research Ideas:

6.3.1 Another area of CDHB, e.g. West Coast, could be assessed, and as it was a national pilot, involving four other DHBs, other areas could also be analysed, hence increasing sample size.

6.3.2 A particular ethnicity, e.g. Maori, could be targeted.

6.3.3 The national drug use by the elderly would be useful information to collect through the use of the InterRAI assessment tool.

Chapter 7. References:

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8. Appendices:

8.1 Appendix A: Assessment Questions/CAPs

NHI Number
Domicile
Age
Gender
Ethnicity
New Zealand Citizen Status
Language
Marital Status
Assessment Referral
Care Goals
Hospital Visits
Participant Residing
Reason for InterRAI Assessment
Memory
Hearing
Communication Expression
Communication Comprehension
Communication Changes
Vision
Current Depression or Sadness
Mood Decline
Current Behaviour
Social Involvement
Isolation
Informal Helpers/Caregivers
Areas of Help Provided by Caregivers
Additional Help if Required
Caregiver Feelings
Amount of Informal Help
Current IDAL Care
Present ADL Care
Mobility
Physical Activity
Functional Potential
Bladder Incontinence-Continence
Bowel Continence/Incontinence
Preventative Health Measures
Problem Conditions
Pain
Danger and Frequency of Fall's
Drinking and Smoking
Health Status
Other Health Indicators
Weight
Food and Liquid Consumption
Swallowing
Chewing
Dermatology/Skin
Ulcers
Other Skin Conditions
Pressure Ulcers
Wound and Ulcer Care/Treatment
Participants Environment/Home
Living Environment
Health Professional Care
Special Treatments, Therapies or Programmes
Use of Medical Equipment
Frequency of Hospital Visits
Treatment Goals
Overall Treatment or Care Changes

8.2 Appendix B: Further Methods and Results

8.2.1 Exact Methods That Were Used To Calculate the Results Using SAS 9:

Approximately 260 people took part in the first trial, of which about 175 were assessed more than once, at 0, 2, 6 and 12 month intervals. Data is on an Excel spread sheet and mainly numeric or alpha. Of these 50 people were with Studentship Community Therapy Services, 15 from Burwood Hospital (pre-operation), ten from Nurse Maude and the rest were NASC.

The data was collected from two databases, an Excel (Microsoft XP) Spreadsheet file and was downloaded into the SAS version7 statistical data processing programme.

There were 264 people in the survey, 145 were sampled twice, 66 three times 11, four, four times and one person five and six times. There are 388 variables, for example age can be calculated from birth minus date of assessment.

This was then simplified into Time One series data, Time Two series data and Time Three series data, for all questions excluding the questions regarding medicines (Q5) and ICD-10 disease scores (J2). Also further Time series data (Assessments) were excluded due to the lack of numbers, thus are not able to be statistically significant.

Six questions concerning the data were calculated:

1. A profile of the participants was created using all the data from the first assessment (Time One Series) except J2 and Q5, (for example Age, Gender, Ethnicity and Domicile). A comparison of Age, Gender and Time One was calculated. The number of hours of help over seven days by Informal Caregivers was calculated. A number of graphs were done to illustrate the results.

2. The 264 participants – Time One series: What are the variables related to, visits to hospital in the last 90 days or since last assessment i.e. P4a and b (HC_P4a and HC_P4b)? In other words what are the relationships between hospital admissions & demographic factors; what are the relationships between hospital admissions (& demographic factors) and informal supports; and what are the relationships between hospital admissions (& demographic factors) and Number of Medications.

a. Explore B1 (HC_BB1a and HC_BB1b) (Gender), B2a & 2b (HC_B2a and HC_B2b) (Age), B3a (HC_BB3), B4 (HC_BB4), B5 (HC_BB5a1 and HC_BB5a2) (English or Maori)

b. Then explore P4a & b (HC_P4a and HC_P4b) against B1 (HC_BB1a and HC_BB1b), B2a&2b (HC_BB2a and HC_BB2b), B3a (HC_BB3), B4 (HC_BB4), B5 (HC_BB5a1 and

HC_BB5a2) and the new variables G1e (HC_G1eA and HC_G1eB), G1f (HC_G1fA and HC_G1fB).

c. Then another variable Q1 (HC_Q1).

3. From the group that have been reassessed once - Time Two series (147 participants): What are the factors involved in changing Residential Type CC5 (HC_CC5), (User ID-subset).

a. Was there a change in Residential Type and if so what do these people look like (i.e. BB1, BB2a, BB2b, BB3a, BB4 and BB5).

b. What is the relationship of CC5 with G1e (HC_G1eA and HC_G1eB) & G1f (HC_G1fA and HC_G1fB)?

c. What is the relationship of CC5 (Residential Type) with K5 (HC_K5) (falls) & K6 (HC_K6a and HC_K6b) (reasons for falls).

d. What is the relationship of CC5 with H3 (HC_H3) (Decline).

e. What is the relationship of CC5 with I1 (HC_I1a and HC_I1b) & I3 (HC_I3) (Bladder and Bowel).

4. If Domicile has changed what else has changed? (Time Series One and Two or all the 488 observations).

a. If CC5 has changed has there been a change in G2 a, b, c and d (HC-G2a, HC_G2b, HC_G2c and HC_G2d) (Caregiver).

b. If CC5 has changed has there been a change in I1 (HC_ I1a and HC_I1b) or I3 (HC_I3) (Bladder and Bowel).

c. If CC5 has changed has there been a change in B2b (HC_B2b) (decision making)?

d. If CC5 has changed has there been a change in O1 a-h (HC_O1a, HC_O1b, HC_O1c, HC_O1d, HC_O1e, HC_O1f, HC_O1g and HC_O1h) (Home Environment).

e. If CC5 has changed has there been a change in N2a (HC_N2a) (Pressure Ulcers).

5. The cross-tabulations below were carried out:

a. Section G-primary helper-lived with them against relationship i.e. HC_G1eA and HC_G1fA,-secondary helper-lived with them against relationship i.e. HC_G1eB and HC_G1fB.

b. Section H, IDAL Tasks-correlate Performance (A) and Difficulty (B) for each IDAL task i.e. HC_H1aA and HC_H1aB;

HC_H1bA and HC_H1bB,

HC_H1cA and HC_H1cB,

HC_H1dA and HC_H1dB,

HC_H1eA and HC_H1eB,

HC_H1fA and HC_H1fB,

HC_H1gA and HC_H1gB.

c. Section K, Pain - correlate all four i.e. no Pain, HC_K4a and HC_K4b and HC_K4d and HC_K4e. All combinations were correlated as well as a three way correlation of HC_K4a, HC_K4b and HC_K4d, controlling with HC_K4a.

d. Section K, Falls - correlate, i.e. HC_K6a and HC_K6b, and possibly HC_K5, all combinations of these were correlated as well as a three way correlation of HC_K6a, HC_K6b and HC_K5, controlling with HC_K6a.

6. The group that have been reassessed once - Time Two series (147 participants) and Time Three series (65 participants): What are the factors involved in changing Domiciles? A table was created of the participants that moved domicile between Time One and Time Two, and between Time Two and Time Three.

8.2.2 Tables of Statistics:

For category numbers used in the below tables, see Appendix D, all numbers refer to numbers given in the questions or are one and two referring to Time One and Time Two respectively.

Cross-Tabulations with Informal Caregivers:

There were significant relationships, but this could be due to small sample sizes.

Table of Primary Caregiver, Residence versus Relationship

HC_G1eA (HC_G1eA) HC_G1fA (HC_G1fA)

Frequency Percent Row Pct Col Pct	0	1	2	3	Total
0	40 15.38 27.03 33.61	96 36.92 64.86 97.96	7 2.69 4.73 35.00	5 1.92 3.38 21.74	148 56.92
1	79 30.38 70.54 66.39	2 0.77 1.79 2.04	13 5.00 11.61 65.00	18 6.92 16.07 78.26	112 43.08
2	0 0.00 . 0.00	0 0.00 . 0.00	0 0.00 . 0.00	0 0.00 . 0.00	0 0.00
Total	119 45.77	98 37.69	20 7.69	23 8.85	260 100.00

Frequency Missing = 4

Statistics for Table of Primary Caregiver, Residence versus Relationship

(Rows and Columns with Zero Totals Excluded)

Statistic	DF	Value	Prob
Chi-Square	3	109.2016	<.0001
Likelihood Ratio Chi-Square	3	133.9786	<.0001
Mantel-Haenszel Chi-Square	1	0.9483	0.3302
Phi Coefficient		0.6481	
Contingency Coefficient		0.5439	
Cramer's V		0.6481	

Effective Sample Size = 260
Frequency Missing = 4

Table of Secondary Caregiver, Residence versus Relationship

HC_G1eB (HC_G1eB) HC_G1fB (HC_G1fB)

Frequency Percent Row Pct Col Pct	0	1	2	3	Total
0	25	3	5	4	37
	15.53	1.86	3.11	2.48	22.98
	67.57	8.11	13.51	10.81	
	21.19	75.00	35.71	16.00	
1	93	1	9	21	124
	57.76	0.62	5.59	13.04	77.02
	75.00	0.81	7.26	16.94	
	78.81	25.00	64.29	84.00	
2	0	0	0	0	0
	0.00	0.00	0.00	0.00	0.00
	.	.	.	.	
	0.00	0.00	0.00	0.00	
Total	118	4	14	25	161
	73.29	2.48	8.70	15.53	100.00

Frequency Missing = 103

Statistics for Table of Secondary Caregiver, Residence versus Relationship

(Rows and Columns with Zero Totals Excluded)

Statistic	DF	Value	Prob
Chi-Square	3	8.3007	0.0402
Likelihood Ratio Chi-Square	3	6.9688	0.0729
Mantel-Haenszel Chi-Square	1	0.0044	0.9470
Phi Coefficient		0.2271	
Contingency Coefficient		0.2214	
Cramer's V		0.2271	

Note: treat significance with caution due to small counts.
Effective Sample Size = 161
Frequency Missing = 103

Cross-Tabulations of IADL:

Table of Meal Preparation, Performance versus Difficulty

HC_H1aA (HC_H1aA) HC_H1aB (HC_H1aB)

Frequency Percent Row Pct Col Pct	0	1	2	Total
0	78 29.55 69.64 84.78	32 12.12 28.57 34.78	2 0.76 1.79 2.50	112 42.42
1	9 3.41 15.25 9.78	41 15.53 69.49 44.57	9 3.41 15.25 11.25	59 22.35
2	1 0.38 10.00 1.09	3 1.14 30.00 3.26	6 2.27 60.00 7.50	10 3.79
3	4 1.52 5.06 4.35	15 5.68 18.99 16.30	60 22.73 75.95 75.00	79 29.92
8	0 0.00 0.00 0.00	1 0.38 25.00 1.09	3 1.14 75.00 3.75	4 1.52
Total	92 34.85	92 34.85	80 30.30	264 100.00

Statistics for Table of Meal Preparation, Performance versus Difficulty

Statistic	DF	Value	Prob
Chi-Square	8	190.4868	<.0001
Likelihood Ratio Chi-Square	8	199.5276	<.0001
Mantel-Haenszel Chi-Square	1	119.8426	<.0001
Phi Coefficient		0.8494	
Contingency Coefficient		0.6474	
Cramer's V		0.6006	

Note: treat significance with caution due to small counts.
Sample Size = 264

Table of Ordinary Housework, Performance versus Difficulty

HC_H1bA (HC_H1bA) HC_H1bB (HC_H1bB)

Frequency Percent Row Pct Col Pct	0	1	2	Total
0	14 5.30 56.00 73.68	7 2.65 28.00 9.46	4 1.52 16.00 2.34	25 9.47
1	3 1.14 6.00 15.79	39 14.77 78.00 52.70	8 3.03 16.00 4.68	50 18.94
2	0 0.00 0.00 0.00	11 4.17 26.19 14.86	31 11.74 73.81 18.13	42 15.91
3	2 0.76 1.42 10.53	15 5.68 10.64 20.27	124 46.97 87.94 72.51	141 53.41
8	0 0.00 0.00 0.00	2 0.76 33.33 2.70	4 1.52 66.67 2.34	6 2.27
Total	19 7.20	74 28.03	171 64.77	264 100.00

Statistics for Table of Ordinary Housework, Performance versus Difficulty

Statistic	DF	Value	Prob
Chi-Square	8	192.4606	<.0001
Likelihood Ratio Chi-Square	8	150.4152	<.0001
Mantel-Haenszel Chi-Square	1	72.0873	<.0001
Phi Coefficient		0.8538	
Contingency Coefficient		0.6493	
Cramer's V		0.6037	

Note: treat significance with caution due to small counts.
Sample Size = 264

Table of Managing Finances, Performance versus Difficulty

HC_H1cA (HC_H1cA) HC_H1cB (HC_H1cB)

Frequency Percent Row Pct Col Pct	0	1	2	Total
0	142 53.79 94.67 88.75	8 3.03 5.33 15.09	0 0.00 0.00 0.00	150 56.82
1	15 5.68 31.25 9.38	32 12.12 66.67 60.38	1 0.38 2.08 1.96	48 18.18
2	0 0.00 0.00 0.00	4 1.52 33.33 7.55	8 3.03 66.67 15.69	12 4.55
3	3 1.14 5.66 1.88	9 3.41 16.98 16.98	41 15.53 77.36 80.39	53 20.08
8	0 0.00 0.00 0.00	0 0.00 0.00 0.00	1 0.38 100.00 1.96	1 0.38
Total	160 60.61	53 20.08	51 19.32	264 100.00

Statistics for Table of Managing Finances, Performance versus Difficulty

Statistic	DF	Value	Prob
Chi-Square	8	285.5364	<.0001
Likelihood Ratio Chi-Square	8	281.6244	<.0001
Mantel-Haenszel Chi-Square	1	186.7710	<.0001
Phi Coefficient		1.0400	
Contingency Coefficient		0.7208	
Cramer's V		0.7354	

Note: treat significance with caution due to small counts.
Sample Size = 264

Table of Managing Medications, Performance versus Difficulty

HC_H1dA (HC_H1dA) HC_H1dB (HC_H1dB)

Frequency Percent Row Pct Col Pct	0	1	2	Total
0	170	10	0	180
	64.39	3.79	0.00	68.18
	94.44	5.56	0.00	
	96.59	20.41	0.00	
1	2	19	0	21
	0.76	7.20	0.00	7.95
	9.52	90.48	0.00	
	1.14	38.78	0.00	
2	2	20	13	35
	0.76	7.58	4.92	13.26
	5.71	57.14	37.14	
	1.14	40.82	33.33	
3	2	0	25	27
	0.76	0.00	9.47	10.23
	7.41	0.00	92.59	
	1.14	0.00	64.10	
8	0	0	1	1
	0.00	0.00	0.38	0.38
	0.00	0.00	100.00	
	0.00	0.00	2.56	
Total	176	49	39	264
	66.67	18.56	14.77	100.00

Statistics for Table of Managing Medications, Performance versus Difficulty

Statistic	DF	Value	Prob
Chi-Square	8	330.8484	<.0001
Likelihood Ratio Chi-Square	8	292.6420	<.0001
Mantel-Haenszel Chi-Square	1	191.9075	<.0001
Phi Coefficient		1.1195	
Contingency Coefficient		0.7458	
Cramer's V		0.7916	

Note: treat significance with caution due to small counts.
Sample Size = 264

Table of Phone Use, Performance versus Difficulty

HC_H1eA (HC_H1eA) HC_H1eB (HC_H1eB)

Frequency Percent Row Pct Col Pct	0	1	2	Total
0	228 86.36 96.61 97.85	8 3.03 3.39 38.10	0 0.00 0.00 0.00	236 89.39
1	3 1.14 25.00 1.29	9 3.41 75.00 42.86	0 0.00 0.00 0.00	12 4.55
2	0 0.00 0.00 0.00	1 0.38 25.00 4.76	3 1.14 75.00 30.00	4 1.52
3	0 0.00 0.00 0.00	0 0.00 0.00 0.00	3 1.14 100.00 30.00	3 1.14
8	2 0.76 22.22 0.86	3 1.14 33.33 14.29	4 1.52 44.44 40.00	9 3.41
Total	233 88.26	21 7.95	10 3.79	264 100.00

Statistics for Table of Phone Use, Performance versus Difficulty

Statistic	DF	Value	Prob
Chi-Square	8	276.4450	<.0001
Likelihood Ratio Chi-Square	8	123.0295	<.0001
Mantel-Haenszel Chi-Square	1	104.3491	<.0001
Phi Coefficient		1.0233	
Contingency Coefficient		0.7152	
Cramer's V		0.7236	

Note: treat significance with caution due to small counts.
Sample Size = 264

Table of Shopping, Performance versus Difficulty

HC_H1fA (HC_H1fA) HC_H1fB (HC_H1fB)

Frequency Percent Row Pct Col Pct	0	1	2	Total
0	53 20.08 73.61 84.13	17 6.44 23.61 21.25	2 0.76 2.78 1.65	72 27.27
1	7 2.65 11.48 11.11	41 15.53 67.21 51.25	13 4.92 21.31 10.74	61 23.11
2	0 0.00 0.00 0.00	7 2.65 21.88 8.75	25 9.47 78.13 20.66	32 12.12
3	2 0.76 2.44 3.17	10 3.79 12.20 12.50	70 26.52 85.37 57.85	82 31.06
8	1 0.38 5.88 1.59	5 1.89 29.41 6.25	11 4.17 64.71 9.09	17 6.44
Total	63 23.86	80 30.30	121 45.83	264 100.00

Statistics for Table of Shopping, Performance versus Difficulty

Statistic	DF	Value	Prob
Chi-Square	8	216.1053	<.0001
Likelihood Ratio Chi-Square	8	221.2011	<.0001
Mantel-Haenszel Chi-Square	1	77.0765	<.0001
Phi Coefficient		0.9048	
Contingency Coefficient		0.6709	
Cramer's V		0.6398	

Sample Size = 264

Table of Transportation, Performance versus Difficulty

HC_H1gA (HC_H1gA) HC_H1gB (HC_H1gB)

Frequency Percent Row Pct Col Pct	0	1	2	Total
0	76	13	2	91
	28.79	4.92	0.76	34.47
	83.52	14.29	2.20	
	90.48	28.89	1.48	
1	2	16	4	22
	0.76	6.06	1.52	8.33
	9.09	72.73	18.18	
	2.38	35.56	2.96	
2	1	5	17	23
	0.38	1.89	6.44	8.71
	4.35	21.74	73.91	
	1.19	11.11	12.59	
3	3	6	97	106
	1.14	2.27	36.74	40.15
	2.83	5.66	91.51	
	3.57	13.33	71.85	
8	2	5	15	22
	0.76	1.89	5.68	8.33
	9.09	22.73	68.18	
	2.38	11.11	11.11	
Total	84	45	135	264
	31.82	17.05	51.14	100.00

Statistics for Table of Transportation, Performance versus Difficulty

Statistic	DF	Value	Prob
Chi-Square	8	250.8927	<.0001
Likelihood Ratio Chi-Square	8	265.2674	<.0001
Mantel-Haenszel Chi-Square	1	95.3119	<.0001
Phi Coefficient		0.9749	
Contingency Coefficient		0.6980	
Cramer's V		0.6893	

Sample Size = 264

Pain Cross-Tabulations:

Table of Pain Frequency versus Intensity

HC_K4a (HC_K4a) HC_K4b (HC_K4b)

Frequency Percent Row Pct Col Pct	0	1	2	3	4	Total
0	73	0	0	0	0	73
	27.65	0.00	0.00	0.00	0.00	27.65
	100.00	0.00	0.00	0.00	0.00	
	100.00	0.00	0.00	0.00	0.00	
1	0	13	19	2	1	35
	0.00	4.92	7.20	0.76	0.38	13.26
	0.00	37.14	54.29	5.71	2.86	
	0.00	36.11	24.05	4.26	3.45	
2	0	9	10	1	2	22
	0.00	3.41	3.79	0.38	0.76	8.33
	0.00	40.91	45.45	4.55	9.09	
	0.00	25.00	12.66	2.13	6.90	
3	0	14	50	44	26	134
	0.00	5.30	18.94	16.67	9.85	50.76
	0.00	10.45	37.31	32.84	19.40	
	0.00	38.89	63.29	93.62	89.66	
Total	73	36	79	47	29	264
	27.65	13.64	29.92	17.80	10.98	100.00

Statistics for Table of Pain, Frequency versus Intensity

Statistic	DF	Value	Prob
Chi-Square	12	315.0310	<.0001
Likelihood Ratio Chi-Square	12	351.8395	<.0001
Mantel-Haenszel Chi-Square	1	169.1222	<.0001
Phi Coefficient		1.0924	
Contingency Coefficient		0.7376	
Cramer's V		0.6307	

Note: treat significance with caution due to small counts.
Sample Size = 264

Table of Pain, Frequency versus Character

HC_K4a (HC_K4a) HC_K4d (HC_K4d)

Frequency Percent Row Pct Col Pct	0	1	2	Total
0	73	0	0	73
	27.65	0.00	0.00	27.65
	100.00	0.00	0.00	
	100.00	0.00	0.00	
1	0	22	13	35
	0.00	8.33	4.92	13.26
	0.00	62.86	37.14	
	0.00	22.00	14.29	
2	0	18	4	22
	0.00	6.82	1.52	8.33
	0.00	81.82	18.18	
	0.00	18.00	4.40	
3	0	60	74	134
	0.00	22.73	28.03	50.76
	0.00	44.78	55.22	
	0.00	60.00	81.32	
Total	73	100	91	264
	27.65	37.88	34.47	100.00

Statistics for Table of Pain, Frequency versus Character

Statistic	DF	Value	Prob
Chi-Square	6	280.9862	<.0001
Likelihood Ratio Chi-Square	6	324.3436	<.0001
Mantel-Haenszel Chi-Square	1	157.7293	<.0001
Phi Coefficient		1.0317	
Contingency Coefficient		0.7180	
Cramer's V		0.7295	

Sample Size = 264

Table of Pain, Intensity versus Character

HC_K4b (HC_K4b) HC_K4d (HC_K4d)

Frequency Percent Row Pct Col Pct	0	1	2	Total
0	73	0	0	73
	27.65	0.00	0.00	27.65
	100.00	0.00	0.00	
	100.00	0.00	0.00	
1	0	32	4	36
	0.00	12.12	1.52	13.64
	0.00	88.89	11.11	
	0.00	32.00	4.40	
2	0	38	41	79
	0.00	14.39	15.53	29.92
	0.00	48.10	51.90	
	0.00	38.00	45.05	
3	0	20	27	47
	0.00	7.58	10.23	17.80
	0.00	42.55	57.45	
	0.00	20.00	29.67	
4	0	10	19	29
	0.00	3.79	7.20	10.98
	0.00	34.48	65.52	
	0.00	10.00	20.88	
Total	73	100	91	264
	27.65	37.88	34.47	100.00

Statistics for Table of Pain, Intensity versus Character

Statistic	DF	Value	Prob
Chi-Square	8	299.0520	<.0001
Likelihood Ratio Chi-Square	8	339.6922	<.0001
Mantel-Haenszel Chi-Square	1	155.3536	<.0001
Phi Coefficient		1.0643	
Contingency Coefficient		0.7288	
Cramer's V		0.7526	

Sample Size = 264

Table of Pain, Frequency versus Medication

HC_K4a (HC_K4a) HC_K4e (HC_K4e)

Frequency Percent Row Pct Col Pct	0	1	2	Total
0	73	0	0	73
	27.65	0.00	0.00	27.65
	100.00	0.00	0.00	
	43.45	0.00	0.00	
1	28	4	3	35
	10.61	1.52	1.14	13.26
	80.00	11.43	8.57	
	16.67	5.19	15.79	
2	12	8	2	22
	4.55	3.03	0.76	8.33
	54.55	36.36	9.09	
	7.14	10.39	10.53	
3	55	65	14	134
	20.83	24.62	5.30	50.76
	41.04	48.51	10.45	
	32.74	84.42	73.68	
Total	168	77	19	264
	63.64	29.17	7.20	100.00

Statistics for Table of Pain, Frequency versus Medication

Statistic	DF	Value	Prob
Chi-Square	6	77.7410	<.0001
Likelihood Ratio Chi-Square	6	101.4507	<.0001
Mantel-Haenszel Chi-Square	1	60.4547	<.0001
Phi Coefficient		0.5427	
Contingency Coefficient		0.4770	
Cramer's V		0.3837	

Sample Size = 264

Table of Pain, Intensity versus Medication

HC_K4b (HC_K4b) HC_K4e (HC_K4e)

Frequency Percent Row Pct Col Pct	0	1	2	Total
0	73	0	0	73
	27.65	0.00	0.00	27.65
	100.00	0.00	0.00	
	43.45	0.00	0.00	
1	29	2	5	36
	10.98	0.76	1.89	13.64
	80.56	5.56	13.89	
	17.26	2.60	26.32	
2	42	28	9	79
	15.91	10.61	3.41	29.92
	53.16	35.44	11.39	
	25.00	36.36	47.37	
3	19	25	3	47
	7.20	9.47	1.14	17.80
	40.43	53.19	6.38	
	11.31	32.47	15.79	
4	5	22	2	29
	1.89	8.33	0.76	10.98
	17.24	75.86	6.90	
	2.98	28.57	10.53	
Total	168	77	19	264
	63.64	29.17	7.20	100.00

The FREQ Procedure

Statistics for Table of Pain, Intensity versus Medication

Statistic	DF	Value	Prob
Chi-Square	8	101.6313	<.0001
Likelihood Ratio Chi-Square	8	124.5962	<.0001
Mantel-Haenszel Chi-Square	1	59.6140	<.0001
Phi Coefficient		0.6205	
Contingency Coefficient		0.5272	
Cramer's V		0.4387	

Sample Size = 264

Table of Pain, Disruption versus Frequency

HC_K4c (HC_K4c) HC_K4a (HC_K4a)

Frequency Percent Row Pct Col Pct	0	1	2	3	Total
0	73	18	10	27	128
	27.65	6.82	3.79	10.23	48.48
	57.03	14.06	7.81	21.09	
	100.00	51.43	45.45	20.15	
1	0	17	12	107	136
	0.00	6.44	4.55	40.53	51.52
	0.00	12.50	8.82	78.68	
	0.00	48.57	54.55	79.85	
Total	73	35	22	134	264
	27.65	13.26	8.33	50.76	100.00

Statistics for Table of Pain, Disruption versus Frequency

Statistic	DF	Value	Prob
Chi-Square	3	120.8401	<.0001
Likelihood Ratio Chi-Square	3	152.2706	<.0001
Mantel-Haenszel Chi-Square	1	114.9448	<.0001
Phi Coefficient		0.6766	
Contingency Coefficient		0.5604	
Cramer's V		0.6766	

Sample Size = 264

Table of Pain, Disruption versus Intensity

HC_K4c (HC_K4c) HC_K4b (HC_K4b)

Frequency Percent Row Pct Col Pct	0	1	2	3	4	Total
0	73	25	22	8	0	128
	27.65	9.47	8.33	3.03	0.00	48.48
	57.03	19.53	17.19	6.25	0.00	
	100.00	69.44	27.85	17.02	0.00	
1	0	11	57	39	29	136
	0.00	4.17	21.59	14.77	10.98	51.52
	0.00	8.09	41.91	28.68	21.32	
	0.00	30.56	72.15	82.98	100.00	
Total	73	36	79	47	29	264
	27.65	13.64	29.92	17.80	10.98	100.00

Statistics for Table of Pain, Disruption versus Intensity

Statistic	DF	Value	Prob
Chi-Square	4	143.2867	<.0001
Likelihood Ratio Chi-Square	4	185.0793	<.0001
Mantel-Haenszel Chi-Square	1	134.4320	<.0001
Phi Coefficient		0.7367	
Contingency Coefficient		0.5931	
Cramer's V		0.7367	

Sample Size = 264

Table of Pain, Disruption versus Character

HC_K4c (HC_K4c) HC_K4d (HC_K4d)

Frequency Percent Row Pct Col Pct	0	1	2	Total
0	73	34	21	128
	27.65	12.88	7.95	48.48
	57.03	26.56	16.41	
	100.00	34.00	23.08	
1	0	66	70	136
	0.00	25.00	26.52	51.52
	0.00	48.53	51.47	
	0.00	66.00	76.92	
Total	73	100	91	264
	27.65	37.88	34.47	100.00

Statistics for Table of Pain, Disruption versus Character

Statistic	DF	Value	Prob
Chi-Square	2	109.4827	<.0001
Likelihood Ratio Chi-Square	2	139.2150	<.0001
Mantel-Haenszel Chi-Square	1	90.3643	<.0001
Phi Coefficient		0.6440	
Contingency Coefficient		0.5414	
Cramer's V		0.6440	

Sample Size = 264

Table of Pain, Disruption versus Medication

HC_K4c (HC_K4c) HC_K4e (HC_K4e)

Frequency Percent Row Pct Col Pct	0	1	2	Total
0	111	10	7	128
	42.05	3.79	2.65	48.48
	86.72	7.81	5.47	
	66.07	12.99	36.84	
1	57	67	12	136
	21.59	25.38	4.55	51.52
	41.91	49.26	8.82	
	33.93	87.01	63.16	
Total	168	77	19	264
	63.64	29.17	7.20	100.00

Statistics for Table of Pain, Disruption versus Medication

Statistic	DF	Value	Prob
Chi-Square	2	60.6810	<.0001
Likelihood Ratio Chi-Square	2	66.0372	<.0001
Mantel-Haenszel Chi-Square	1	39.0902	<.0001
Phi Coefficient		0.4794	
Contingency Coefficient		0.4323	
Cramer's V		0.4794	

Sample Size = 264

Table of Pain, Character versus Medication

HC_K4d (HC_K4d) HC_K4e (HC_K4e)

Frequency Percent Row Pct Col Pct	0	1	2	Total
0	73	0	0	73
	27.65	0.00	0.00	27.65
	100.00	0.00	0.00	
	43.45	0.00	0.00	
1	60	32	8	100
	22.73	12.12	3.03	37.88
	60.00	32.00	8.00	
	35.71	41.56	42.11	
2	35	45	11	91
	13.26	17.05	4.17	34.47
	38.46	49.45	12.09	
	20.83	58.44	57.89	
Total	168	77	19	264
	63.64	29.17	7.20	100.00

Statistics for Table of Pain, Character versus Medication

Statistic	DF	Value	Prob
Chi-Square	4	67.2113	<.0001
Likelihood Ratio Chi-Square	4	90.2312	<.0001
Mantel-Haenszel Chi-Square	1	54.9515	<.0001
Phi Coefficient		0.5046	
Contingency Coefficient		0.4505	
Cramer's V		0.3568	

Sample Size = 264

Cross-Tabulations of Danger and Frequency of Falls:

Table of Falls, Unsteady Gait versus Limits Activity

HC_K6a (HC_K6a) HC_K6 (HC_K6b)

Frequency Percent Row Pct Col Pct	0	1	Total
0	103 39.02 92.79 51.76	8 3.03 7.21 12.31	111 42.05
1	96 36.36 62.75 48.24	57 21.59 37.25 87.69	153 57.95
Total	199 75.38	65 24.62	264 100.00

Statistics for Table of Falls, Unsteady Gait versus Limits Activity

Statistic	DF	Value	Prob
Chi-Square	1	31.2949	<.0001
Likelihood Ratio Chi-Square	1	35.1537	<.0001
Continuity Adj. Chi-Square	1	29.6969	<.0001
Mantel-Haenszel Chi-Square	1	31.1764	<.0001
Phi Coefficient		0.3443	
Contingency Coefficient		0.3255	
Cramer's V		0.3443	

Fisher's Exact Test

Cell (1,1) Frequency (F)	103
Left-sided Pr <= F	1.0000
Right-sided Pr >= F	4.503E-09
Table Probability (P)	3.942E-09
Two-sided Pr <= P	6.845E-09

Sample Size = 264

Statistics for Table of Falls, Limits Activity versus Fall Frequency

Statistic	DF	Value	Prob
Chi-Square	7	26.3883	0.0004
Likelihood Ratio Chi-Square	7	25.7713	0.0006
Mantel-Haenszel Chi-Square	1	6.9901	0.0082
Phi Coefficient		0.3162	
Contingency Coefficient		0.3015	
Cramer's V		0.3162	

Note: treat significance with caution due to small counts.
Sample Size = 264

Statistics for Table of Falls, Unsteady Gait versus Fall Frequency

Statistic	DF	Value	Prob
Chi-Square	7	21.1473	0.0036
Likelihood Ratio Chi-Square	7	26.9108	0.0003
Mantel-Haenszel Chi-Square	1	16.5916	<.0001
Phi Coefficient		0.2830	
Contingency Coefficient		0.2723	
Cramer's V		0.2830	

Note: treat significance with caution due to small counts.
Sample Size = 264

8.2.2.1 Why are participants having Non-Routine Visits to Hospitals?

What are the relationships between the Non-Routine Visits to Hospital in the last 90 days or since the last assessment i.e. hospital admissions and demographic factors; and what are the relationships between hospital admissions (and demographic factors) and informal supports; and what are the relationships between hospital admissions (and demographic factors) and Number of Medications used by participants.

a. Is the relationship between Gender, Age, Ethnicity, Marital Status, and Language (English or Maori) important? Yes, Marital Status.

Statistics for Table of Martial Status by Frequency of Non-Routine Hospital Visits

Statistic	DF	Value	Prob
Chi-Square	15	37.7861	0.0010
Likelihood Ratio Chi-Square	15	23.9045	0.0667
Mantel-Haenszel Chi-Square	1	2.4409	0.1182
Phi Coefficient		0.3783	
Contingency Coefficient		0.3538	
Cramer's V		0.2184	

Note: treat significance with caution due to small counts.
Sample Size = 264

b. Are Non-Routine Visits to Hospital in the last 90 days or since last assessment against the new variables, of Informal Helpers important? Yes, relationship of Primary Caregivers to participants.

Statistics for Table of Relationship of Primary Caregivers by Frequency Visits to ED

Statistic	DF	Value	Prob
Chi-Square	6	12.1025	0.0597
Likelihood Ratio Chi-Square	6	6.5871	0.3607
Mantel-Haenszel Chi-Square	1	5.8515	0.0156
Phi Coefficient		0.2158	
Contingency Coefficient		0.2109	
Cramer's V		0.1526	

Note: treat significance with caution due to small counts.
Effective Sample Size = 260
Frequency Missing = 4

c. Then another variable, the Number of Medications required is this also important? No relationship.

8.2.2.2 Why are participants moving between Residential Types?

From the group that have been reassessed once - Time Two Series (147 or 42 participants):

There are 42, participants, ten (24%) are males and 32 (76%) are females. Of the 42 participants, two (5%) are European, 35 (83%) are New Zealand European and five (12%) are Other European. Of the 42 participants, five (12%) have never married, 14 (45%) are married and 13 (43%) are widowed.

1. What are the factors involved in changing Residential Type between assessments?

a. If there was a change in Residential Type what do these participants look like (i.e. Gender, Age, Ethnicity, Marital Status, and Language (English or Maori)) and is there a relationship with the demographic factors. Yes, the below were significant.

Statistics for Table 2 of time by Residential Type
Controlling for HC_BB1=2

Statistic	DF	Value	Prob
Chi-Square	4	36.5000	<.0001
Likelihood Ratio Chi-Square	4	45.0991	<.0001
Mantel-Haenszel Chi-Square	1	23.1831	<.0001
Phi Coefficient		0.7552	
Contingency Coefficient		0.6026	
Cramer's V		0.7552	

Note: treat significance with caution due to small counts.
Sample Size = 64

Statistics for Table 1 of time by Residential Type
Controlling for HC_BB2b=0

Statistic	DF	Value	Prob
Chi-Square	4	44.2629	<.0001
Likelihood Ratio Chi-Square	4	55.8618	<.0001
Mantel-Haenszel Chi-Square	1	33.4350	<.0001
Phi Coefficient		0.7734	
Contingency Coefficient		0.6118	
Cramer's V		0.7734	

Note: treat significance with caution due to small counts.
Sample Size = 74

Statistics for Table 2 of time by Residential Type
Controlling for HC_BB3=11

Statistic	DF	Value	Prob
Chi-Square	4	39.3263	<.0001
Likelihood Ratio Chi-Square	4	49.8670	<.0001
Mantel-Haenszel Chi-Square	1	30.2086	<.0001
Phi Coefficient		0.7495	
Contingency Coefficient		0.5998	
Cramer's V		0.7495	

Note: treat significance with caution due to small counts.
Sample Size = 70

Statistics for Table 1 of time by Residential Type
Controlling for HC_BB5a1=0

Statistic	DF	Value	Prob
Chi-Square	4	46.9111	<.0001
Likelihood Ratio Chi-Square	4	59.5451	<.0001
Mantel-Haenszel Chi-Square	1	33.9839	<.0001
Phi Coefficient		0.7473	
Contingency Coefficient		0.5986	
Cramer's V		0.7473	

Note: treat significance with caution due to small counts.
Sample Size = 84

Statistics for Table 1 of time by Residential Type
Controlling for HC_BB5a2=eng

Statistic	DF	Value	Prob
Chi-Square	4	46.9111	<.0001
Likelihood Ratio Chi-Square	4	59.5451	<.0001
Mantel-Haenszel Chi-Square	1	33.9839	<.0001
Phi Coefficient		0.7473	
Contingency Coefficient		0.5986	
Cramer's V		0.7473	

Note: treat significance with caution due to small counts.
Sample Size = 84

Statistics for Table 1 of time by Residential Type
Controlling for HC_BB5b=0

Statistic	DF	Value	Prob
Chi-Square	4	46.9111	<.0001
Likelihood Ratio Chi-Square	4	59.5451	<.0001
Mantel-Haenszel Chi-Square	1	33.9839	<.0001
Phi Coefficient		0.7473	
Contingency Coefficient		0.5986	
Cramer's V		0.7473	

Note: treat significance with caution due to small counts.
Sample Size = 84

b. What is the relationship of Residential Type with Informal Primary and Secondary Helpers, the living arrangements and relationship with the participant? Yes.

Statistics for Table 3 of time by Residential Type
Controlling for HC_G1eB=2

Statistic	DF	Value	Prob
Chi-Square	4	27.3333	<.0001
Likelihood Ratio Chi-Square	4	36.3205	<.0001
Mantel-Haenszel Chi-Square	1	15.8919	<.0001
Phi Coefficient		0.8966	
Contingency Coefficient		0.6676	
Cramer's V		0.8966	

Note: treat significance with caution due to small counts.
Sample Size = 34

Statistics for Table 1 of time by Residential Type
Controlling for HC_G1gA=0

Statistic	DF	Value	Prob
Chi-Square	4	42.7057	<.0001
Likelihood Ratio Chi-Square	4	54.2512	<.0001
Mantel-Haenszel Chi-Square	1	31.4274	<.0001
Phi Coefficient		0.7352	
Contingency Coefficient		0.5924	
Cramer's V		0.7352	

Note: treat significance with caution due to small counts.
Sample Size = 79

Statistics for Table 1 of time by Residential Type
Controlling for HC_G1hA=0

Statistic	DF	Value	Prob
Chi-Square	4	36.2862	<.0001
Likelihood Ratio Chi-Square	4	46.1441	<.0001
Mantel-Haenszel Chi-Square	1	27.3044	<.0001
Phi Coefficient		0.7252	
Contingency Coefficient		0.5871	
Cramer's V		0.7252	

Note: treat significance with caution due to small counts.
Sample Size = 69

Statistics for Table 1 of time by Residential Type
Controlling for HC_G1iA=0

Statistic	DF	Value	Prob
Chi-Square	4	9.6168	0.0474
Likelihood Ratio Chi-Square	4	11.7531	0.0193
Mantel-Haenszel Chi-Square	1	5.9788	0.0145
Phi Coefficient		0.6466	
Contingency Coefficient		0.5430	
Cramer's V		0.6466	

Note: treat significance with caution due to small counts.
Sample Size = 23

Statistics for Table 1 of time by Residential Type
Controlling for HC_G2a=0

Statistic	DF	Value	Prob
Chi-Square	4	41.6027	<.0001
Likelihood Ratio Chi-Square	4	52.5001	<.0001
Mantel-Haenszel Chi-Square	1	29.5434	<.0001
Phi Coefficient		0.7399	
Contingency Coefficient		0.5948	
Cramer's V		0.7399	

Note: treat significance with caution due to small counts.
Sample Size = 76

Statistics for Table 1 of time by Residential Type
Controlling for HC_G2b=0

Statistic	DF	Value	Prob
Chi-Square	4	46.9111	<.0001
Likelihood Ratio Chi-Square	4	59.5451	<.0001
Mantel-Haenszel Chi-Square	1	33.9839	<.0001
Phi Coefficient		0.7473	
Contingency Coefficient		0.5986	
Cramer's V		0.7473	

Note: treat significance with caution due to small counts.
Sample Size = 84

c. Is there a relationship of Residential Type with Pain and reason for Falls? Yes.

Statistics for Table of Fall Frequency by Time

Statistic	DF	Value	Prob
Chi-Square	5	12.7474	0.0259
Likelihood Ratio Chi-Square	5	13.9268	0.0161
Mantel-Haenszel Chi-Square	1	8.4642	0.0036
Phi Coefficient		0.3896	
Contingency Coefficient		0.3630	
Cramer's V		0.3896	

Note: treat significance with caution due to small counts.
Sample Size = 84

Statistics for Table 1 of time by Residential Type
Controlling for HC_K5=0

Statistic	DF	Value	Prob
Chi-Square	4	48.8065	<.0001
Likelihood Ratio Chi-Square	4	58.8571	<.0001
Mantel-Haenszel Chi-Square	1	24.0992	<.0001
Phi Coefficient		0.9253	
Contingency Coefficient		0.6792	
Cramer's V		0.9253	

Note: treat significance with caution due to small counts.
Sample Size = 57

Statistics for Table 2 of time by Residential Type
Controlling for HC_K6a=1

Statistic	DF	Value	Prob
Chi-Square	4	27.1575	<.0001
Likelihood Ratio Chi-Square	4	37.5772	<.0001
Mantel-Haenszel Chi-Square	1	21.9991	<.0001
Phi Coefficient		0.7297	
Contingency Coefficient		0.5895	
Cramer's V		0.7297	

Note: treat significance with caution due to small counts.
Sample Size = 51

Statistics for Table 1 of time by Residential Type
Controlling for HC_K6b=0

Statistic	DF	Value	Prob
Chi-Square	4	39.2669	<.0001
Likelihood Ratio Chi-Square	4	48.2371	<.0001
Mantel-Haenszel Chi-Square	1	25.6795	<.0001
Phi Coefficient		0.7833	
Contingency Coefficient		0.6166	
Cramer's V		0.7833	

Note: treat significance with caution due to small counts.
Sample Size = 64

d. Is there a relationship of Residential Type with ADL Decline? Yes.

Table of ADL Decline by Time

HC_H3 (HC_H3) time (time)

Frequency Percent Row Pct Col Pct	1	2	Total
0	14	33	47
	16.67	39.29	55.95
	29.79	70.21	
	33.33	78.57	
1	28	9	37
	33.33	10.71	44.05
	75.68	24.32	
	66.67	21.43	
Total	42	42	84
	50.00	50.00	100.00

Statistics for Table ADL Decline by Time

Statistic	DF	Value	Prob
Chi-Square	1	17.4376	<.0001
Likelihood Ratio Chi-Square	1	18.1435	<.0001
Continuity Adj. Chi-Square	1	15.6504	<.0001
Mantel-Haenszel Chi-Square	1	17.2300	<.0001
Phi Coefficient		-0.4556	
Contingency Coefficient		0.4146	
Cramer's V		-0.4556	

Fisher's Exact Test

Cell (1,1) Frequency (F)	14
Left-sided Pr <= F	2.890E-05
Right-sided Pr >= F	1.0000
Table Probability (P)	2.532E-05
Two-sided Pr <= P	5.779E-05

Sample Size = 84

Statistics for Table 2 of time by Residential Type
Controlling for HC_H3=1

Statistic	DF	Value	Prob
Chi-Square	4	28.1104	<.0001
Likelihood Ratio Chi-Square	4	30.6234	<.0001
Mantel-Haenszel Chi-Square	1	24.4292	<.0001
Phi Coefficient		0.8716	
Contingency Coefficient		0.6571	
Cramer's V		0.8716	

Note: treat significance with caution due to small counts.
Sample Size = 37

e. Is there a relationship of Residential Type with Bladder and Bowel? No.

Statistics for Table 1 of time by Residential Type
Controlling for HC_I2b=0

Statistic	DF	Value	Prob
Chi-Square	4	45.9350	<.0001
Likelihood Ratio Chi-Square	4	57.9345	<.0001
Mantel-Haenszel Chi-Square	1	33.6292	<.0001
Phi Coefficient		0.7674	
Contingency Coefficient		0.6088	
Cramer's V		0.7674	

Note: treat significance with caution due to small counts.
Sample Size = 78

Statistics for Table 1 of time by Residential Type
Controlling for HC_I2c=0

Statistic	DF	Value	Prob
Chi-Square	4	19.0667	0.0008
Likelihood Ratio Chi-Square	4	26.4063	<.0001
Mantel-Haenszel Chi-Square	1	14.9144	0.0001
Phi Coefficient		0.7489	
Contingency Coefficient		0.5994	
Cramer's V		0.7489	

Note: treat significance with caution due to small counts.
Sample Size = 34

2. If Residential Type has changed what else has changed (The data used was Time series 1 and 2 data only, i.e. 42 participants)?

a. If Residential Type has changed has there been a change in Primary or Secondary Caregiver? No.

b. If Residential Type has changed has there been a change in Bladder and Bowel Continence? No.

c. If Residential Type has changed has there been a change in decision making? Yes.

Statistics for Table 2 of time by Residential Type
Controlling for HC_B2b=1

Statistic	DF	Value	Prob
Chi-Square	4	10.1786	0.0375
Likelihood Ratio Chi-Square	4	13.9976	0.0073
Mantel-Haenszel Chi-Square	1	6.5789	0.0103
Phi Coefficient		0.8238	
Contingency Coefficient		0.6358	
Cramer's V		0.8238	

Note: treat significance with caution due to small counts.
Sample Size = 15

d. If Residential Type has changed has there been a change in the Home Environment, e.g. home heating, access to the home and operational kitchen? Yes.

Statistics for Table of Home Environment, Access to Home by Time

Statistic	DF	Value	Prob
Chi-Square	1	3.8961	0.0484
Likelihood Ratio Chi-Square	1	4.2873	0.0384
Continuity Adj. Chi-Square	1	2.4935	0.1143
Mantel-Haenszel Chi-Square	1	3.8497	0.0498
Phi Coefficient		-0.2154	
Contingency Coefficient		0.2105	
Cramer's V		-0.2154	

Note: treat significance with caution due to small counts.

Fisher's Exact Test

Cell (1,1) Frequency (F)	36
Left-sided Pr <= F	0.0546
Right-sided Pr >= F	0.9940
Table Probability (P)	0.0486
Two-sided Pr <= P	0.1092

Sample Size = 84

Statistics for Table 1 of time by Residential Type
Controlling for HC_O1a=0

Statistic	DF	Value	Prob
Chi-Square	4	45.9057	<.0001
Likelihood Ratio Chi-Square	4	58.1467	<.0001
Mantel-Haenszel Chi-Square	1	33.0098	<.0001
Phi Coefficient		0.7437	
Contingency Coefficient		0.5968	
Cramer's V		0.7437	

Note: treat significance with caution due to small counts.
Sample Size = 83

Statistics for Table 1 of time by Residential Type
Controlling for HC_O1b=0

Statistic	DF	Value	Prob
Chi-Square	4	37.6184	<.0001
Likelihood Ratio Chi-Square	4	47.8694	<.0001
Mantel-Haenszel Chi-Square	1	28.1832	<.0001
Phi Coefficient		0.7179	
Contingency Coefficient		0.5832	
Cramer's V		0.7179	

Note: treat significance with caution due to small counts.
Sample Size = 73

Statistics for Table 1 of time by Residential Type
Controlling for HC_O1c=0

Statistic	DF	Value	Prob
Chi-Square	4	41.1421	<.0001
Likelihood Ratio Chi-Square	4	52.3485	<.0001
Mantel-Haenszel Chi-Square	1	30.6565	<.0001
Phi Coefficient		0.7310	
Contingency Coefficient		0.5901	
Cramer's V		0.7310	

Note: treat significance with caution due to small counts.
Sample Size = 77

Statistics for Table 1 of time by Residential Type
Controlling for HC_O1d=0

Statistic	DF	Value	Prob
Chi-Square	4	46.9111	<.0001
Likelihood Ratio Chi-Square	4	59.5451	<.0001
Mantel-Haenszel Chi-Square	1	33.9839	<.0001
Phi Coefficient		0.7473	
Contingency Coefficient		0.5986	
Cramer's V		0.7473	

Note: treat significance with caution due to small counts.
Sample Size = 84

Statistics for Table 1 of time by Residential Type
Controlling for HC_O1e=0

Statistic	DF	Value	Prob
Chi-Square	4	45.5925	<.0001
Likelihood Ratio Chi-Square	4	57.8997	<.0001
Mantel-Haenszel Chi-Square	1	33.1831	<.0001
Phi Coefficient		0.7549	
Contingency Coefficient		0.6025	
Cramer's V		0.7549	

Note: treat significance with caution due to small counts.
Sample Size = 80

Statistics for Table 1 of time by Residential Type
Controlling for HC_O1f=0

Statistic	DF	Value	Prob
Chi-Square	4	46.9111	<.0001
Likelihood Ratio Chi-Square	4	59.5451	<.0001
Mantel-Haenszel Chi-Square	1	33.9839	<.0001
Phi Coefficient		0.7473	
Contingency Coefficient		0.5986	
Cramer's V		0.7473	

Note: treat significance with caution due to small counts.
Sample Size = 84

Statistics for Table 1 of time by Residential Type
Controlling for HC_O1g=0

Statistic	DF	Value	Prob
Chi-Square	4	42.1109	<.0001
Likelihood Ratio Chi-Square	4	53.0092	<.0001
Mantel-Haenszel Chi-Square	1	29.6167	<.0001
Phi Coefficient		0.7395	
Contingency Coefficient		0.5946	
Cramer's V		0.7395	

Note: treat significance with caution due to small counts.
Sample Size = 77

Statistics for Table 1 of time by Residential Type
Controlling for HC_O1h=0

Statistic	DF	Value	Prob
Chi-Square	4	44.8986	<.0001
Likelihood Ratio Chi-Square	4	56.8641	<.0001
Mantel-Haenszel Chi-Square	1	32.2665	<.0001
Phi Coefficient		0.7400	
Contingency Coefficient		0.5948	
Cramer's V		0.7400	

Note: treat significance with caution due to small counts.
Sample Size = 82

Statistics for Table 2 of time by Residential Type
Controlling for HC_O1i=1

Statistic	DF	Value	Prob
Chi-Square	4	34.4588	<.0001
Likelihood Ratio Chi-Square	4	43.7391	<.0001
Mantel-Haenszel Chi-Square	1	25.6539	<.0001
Phi Coefficient		0.7281	
Contingency Coefficient		0.5886	
Cramer's V		0.7281	

Note: treat significance with caution due to small counts.
Sample Size = 65

e. If Residential Type has changed has there been a change in Pressure Ulcers? No, change in Ulcers, but some participants have changed Residential Type.

Statistics for Table 1 of time by Residential Type
Controlling for HC_N2a=0

Statistic	DF	Value	Prob
Chi-Square	4	47.9910	<.0001
Likelihood Ratio Chi-Square	4	60.3910	<.0001
Mantel-Haenszel Chi-Square	1	32.9431	<.0001
Phi Coefficient		0.7697	
Contingency Coefficient		0.6100	
Cramer's V		0.7697	

Note: treat significance with caution due to small counts.
Sample Size = 81

Statistics for Table 1 of time by Residential Type
Controlling for HC_N2b=0

Statistic	DF	Value	Prob
Chi-Square	4	42.9206	<.0001
Likelihood Ratio Chi-Square	4	54.1403	<.0001
Mantel-Haenszel Chi-Square	1	30.3604	<.0001
Phi Coefficient		0.7325	
Contingency Coefficient		0.5909	
Cramer's V		0.7325	

Note: treat significance with caution due to small counts.
Sample Size = 80

8.3 Appendix C: Further Recommendations

Most of the further recommendations highlighted below have been solved as (personal communication with Dr. Brigette Larkins, 2008) the Canadian based software that the CDHB pilot was using, since then the software is no longer being used, and no longer is a paper based version of the questionnaire is used, resolving the need to input it into the software, and thus decreasing more of these problems, as an EHR is created at the time of assessment.

8.3.1 Overall Decision or Problem: What are we presenting, all the 488 assessments or the Time One Series data (i.e. all the 264 participants), only the first assessment was decided on to present in the 'Results'?

8.3.1.1 Problem One (there is a question but no data):

a. There is a sheet labelled Section DD in both the Excel spreadsheet and SAS Data but no Section DD in the SAS Time One or combined output with no questions and codes for it?

b. In sheet Section BB, question 8 it goes from a-k, but again there are no questions or codes in the InterRAI code book?

c. Also there is a Section Z in the data (both excel and SAS) and no questions or codes for it in the InterRAI code book, plus a Section S (but note not in SAS) but actually there is no data in Excel.

d. There is a question in Section E, HC-E1j, with data but no question in the InterRAI code book?

e. There is a question in Section P, HC-P1i A, B and C with data but no question in the InterRAI code book?

f. Also Section BB a complete mess, e.g. no question 7 c, d and e and data for question 8, 8a-k, in which a, c and e, are more than just 100% of zero's.

g. There is an extra question, with data in Section P question 1K, but no questions for it in the InterRAI code book.

h. There are also two extra sections in the data Section S and Z, but no relevant data.

i. Plus Section R only the date of filling in the questionnaire has been answered.

8.3.1.2 Problem Two:

It was assumed for the estimated birth dates (HC-BB2b) that are then no longer estimated in previous assessments as not estimated in the first assessment.

This was also done with the domicile codes (HC-AA4), i.e. turned all Not Applicable/Available (NAs) to the other known residency in another assessment time. This is especially as the same assessor was responsible in many cases.

8.3.1.3 Problem Three:

In Section BB, question 7, it talks about New Zealand citizenship etc, but the response in the data is ambiguous about citizen or resident, plus four on work permits, at their age?, this could have been due to coding problems and was left as it was.

8.3.1.4 Problem Four:

There were 264 participants, all having no power of attorney's or non-resuscitation orders, probability of this pretty small I would think? This was a coding problem.

8.3.1.5 Problem Five (no idea what zero and one were coded):

a. Last question in Section H did not have codes for question, so don't know what 0 and 1 refer to as before question in Section G as well.
b. The same problem occurred with power of attorney in Section BB.
c. I have completed Section G, but there is a problem in that one of the questions with a, b, c and d is scored 0 or 1 in the data but the questions and code book do not say what these mean.
d. There is more no zero’s and ones further on, i.e. these were supposed to be cumulative questions, for example Section K.

8.3.1.6 Problem Six (questions, but blanks not filled in):

a. Also in Section G there was a lot of missing data, as no secondary helpers (checked excel, data not there), but according to the code book they were supposed to code none with N/A (not available/applicable) or with two (no such helpers).
b. In Section P there are no percentages as NA was left blank, i.e. the data was missing, therefore the percentages were calculated.

8.3.1.7 Problem Seven:

In one section of Section P the hours and minutes were supposed to be cumulative but for one day (one score was 168 hrs), also the NA days and hours (and minutes) should have been the same but were not, it could be taken as a cumulative total of care provided overall.

In Section P the NHI numbers, for 168 hours, were for six participants and, it was just one entry for each number.

I agree that 168 hours equals 7*24 hours in which case wouldn't this be coded as 7 days and 24 hours?

It would be better if the hours and minutes were coded cumulatively and in the same amount e.g. two hours and ten minutes could be 130 minutes or 2.1 hours.

8.3.1.8 Problem Eight (ambiguous questions):

For living environment (Section P), it could also be taken that participant should live alone, or helper live alone (without participant), and/or both participant and helper live together, without others if present or change as they currently don't live together.

Also in Section P, P2aa comes before rest of questions in SAS output, giving problems with data analysis, perhaps questions could be coded as a-z, then ai, bi, ci etc. Note not all codes, situations are coded or found to exist in the data, so have subtracted the data to come up with NA or none, for the question.

8.3.1.9 Problem Nine:

Sections J and Q that have been excluded so far? The sections were done by hand and SAS did not create a separate SAS file just for these questions? Could not do questions HC-J2 and HC-Q5, as do not have the same format and layout of the rest of the Sections or questions and thus could not be grouped into one SAS database.

8.3.10 Problem Ten:

A new variable of age in the data set was created, i.e. HC_BB2 (Birth Date)-Assessment Date, it would be good if the question was also asked or recorded on the questionnaire sheet.

8.3.2 Further Data Analysis on This Dataset that could be tested:

a. On the CDHB pilot, you could do further comparisons e.g. correlating skin problems with treatments and IADL performance and difficulty levels.

b. Further research on the other assessments, for which there are enough participants could also be done.

c. The hours and minutes a professional caregiver helps the 264 participants per week could be compared then this result with the number of days a professional caregiver helps participants could then also be compared.

9.4 Appendix D: MDS_HC form (2001)

(AIS Inc., 2006).

Name of Client

NHI Number

Minimum Data Set Home Care (MDS-HC)© New Zealand- Full Assessment

- Unless otherwise noted, score for last 3 days
- Examples of exceptions include IADLs/Continence/ Services/Treatments where status scored over last 7 days

Client Service Address Information

Address:

Suburb:

City:

Domicile Code:

Country:

Phone Number:

SECTION AA: NAME AND IDENTIFICATION INFORMATION		
1	NAME OF CLIENT	a. Last/Family Name b. First Name c. Middle Name/Initial
2	NHI NUMBER	☐☐☐☐☐☐☐ 3 alpha + 4 numeric
3	ACC CLAIM NUMBER (details)	(NOTE/TEXT FIELD)
4	DOMICILE CODE OF RESIDENCE	See RAI-HC manual for homeless/missing codes. ☐☐☐☐ 4 alpha/numeric

SECTION BB. PERSONAL ITEMS			
1	GENDER	**M.** Male **F.** Female	☐
2a	BIRTH DATE	☐☐ Day ☐☐ Month ☐☐☐☐ Year	
2b	ESTIMATED BIRTH DATE	Birth date is estimated? **0.** No **1.** Yes	☐
2c	DRIVERS LICENSE	Has current drivers license? **0.** No **1.** Yes	☐
3a	ETHNICITY level 1	1 European 2 Maori 3 Pacific Island 4 Asian 5 Other ethnic group	☐
3b	ETHNICITY level 2	10 European not further defined 11 NZ European 12 Other European 21 NZ Maori 30 Pacific Island not further defined 31 Samoan 32 Cook Island Maori 33 Tongan 34 Niuean 35 Tokelauan 36 Fijian 37 Other Pacific Island (not listed) 40 Asian not further defined 41 South east Asian 42 Chinese 43 Indian 44 Other Asian 51 Middle Eastern 52 Latin American/Hispanic 53 African 54 Other 99 Not stated	☐
4	MARITAL STATUS	**1.** Never married **2.** Married/Civil union/Defacto **3.** Widowed **4.** Separated **5.** Divorced **6.** Other	☐

5	LANGUAGE	a. Primary language (See RAI-HC manual for additional codes.) **eng.** English **mri.** Maori	☐☐☐
		b. Interpreter needed **0.** No **1.** Yes	☐
6	RESPONSI-BILITY/ ADVANCED DIRECTIVES	***(Code for responsibility/advanced directives)*** **0.** No **1.** Yes	
		a. Client has enduring power of attorney or welfare guardian or property manager	☐
		b. Client has advanced medical directives in place (for example, a do not hospitalize order)	☐
7	ELIGIBILITY FOR PUBLICLY FUNDED HEALTH SERVICES IN NEW ZEALAND	***(Check all codes that apply)***	
		a. New Zealand resident / citizen	a.
		b. Work permit holder	b.
		c. Australian resident in NZ/visiting NZ	c.
		d. UK citizen visiting NZ	d.
		e. ACC accepted claims	e.
8	DETAILS ON ENTITLE-MENTS (e.g. income support)	(Note box used to note details of various entitlements people may have.)	

SECTION CC. REFERRAL ITEMS *(Complete at Intake Only)*			
1	DATE CASE OPENED/ REOPENED	☐☐ Day ☐☐ Month ☐☐☐☐ Year	
2	REASON FOR REFERRAL	**1.** Community support needs assessment **2.** Community clinical assessment **3.** Acute service in-patient **4.** Rehabilitation service in-patient **5.** Rehabilitation service community **6.** Support services review assessment **7.** Other	☐
3	UNDER-STANDING OF GOALS OF CARE	***(Code for client/family understanding of goals of care)*** **0.** No **1.** Yes	
		a. Assessment/treatment by registered nurses	☐
		b. Monitoring to avoid clinical complications	☐
		c. Rehabilitation	☐
		d. Client/family education	☐
		e. Family respite	☐
		f. Palliative care	☐
		g. To remain at home	☐
		h. Facility Placement	☐

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4	TIME SINCE LAST HOSPITAL STAY	Time since discharge from last inpatient setting ***(Code for most recent instance in LAST 180 DAYS)***	
		0. Presently in hospital **1**. No hospitalization within 180 days **2**. Within last week **3**. Within 8 to 14 days **4**. Within 15 to 30 days **5**. More than 30 days ago	☐
5	WHERE LIVED AT TIME OF REFERRAL	**1**. Private home/apt. with no home care services **2**. Private home/apt. with home care services **3**. Board and care/assisted living/group home **4**. Residential care facility **5**. Other	☐
6	WHO LIVED WITH AT REFERRAL	**1**. Lived alone **2**. Lived with spouse only **3**. Lived with spouse and other(s) **4**. Lived with child (not spouse) **5**. Lived with other(s) (not spouse or children) **6**. Lived in group setting with non-relative(s)	☐
7	PRIOR RESIDENTIAL CARE FACILITY PLACEMENT	Resided in a residential care facility at anytime during **5 YEARS** prior to case opening **0**. No **1**. Yes	☐
8	RESIDENTIAL HISTORY	Moved to current residence within last two years. **0**. No **1**. Yes	☐

SECTION A. ASSESSMENT INFORMATION

1	ASSESSMENT REFERENCE DATE	***Date of assessment*** ☐☐ Day ☐☐ Month ☐☐☐☐ Year	
2	REASON FOR ASSESSMENT	***Type of assessment*** **1**. Initial assessment **2**. Follow-up assessment **3**. Routine assessment at fixed intervals **4**. Review within 30-day period prior to discharge from the programme **5**. Review at return from hospital **6**. Change in status **7**. Discharge/transfer from service **8**. Other	☐

SECTION B. COGNITIVE PATTERNS

1	MEMORY RECALL ABILITY	***(Code for recall of what was learned or known)*** **0**. Memory OK **1**. Memory problem	
		a. Short-term memory OK—seems/appears to recall after 5 minutes	☐
		b. Procedural memory OK—can perform all or almost all steps in a multitask sequence without cues for initiation	☐
2	COGNITIVE SKILLS FOR DAILY DECISION-MAKING	a. How well client made decisions about organizing the day (e.g. when to get up or have meals, which clothes to wear or activities to do) **0**. *INDEPENDENT*—Decisions consistent/reasonable/safe **1**. *MODIFIED INDEPENDENCE*—Some difficulty in new situations only **2**. *MINIMALLY IMPAIRED*—In specific situations, decisions become poor or unsafe and cues/supervision necessary at those times **3**. *MODERATELY IMPAIRED*—Decisions consistently poor or unsafe, cues/supervision required at all times **4**. *SEVERELY IMPAIRED*—Never/rarely made decisions	☐
		b. Worsening of decision making as compared to status of **90 DAYS AGO** (or since last assessment if less than 90 days) **0**. No **1**. Yes	☐
3	INDICATORS OF DELIRIUM	a. Sudden or new onset/change in mental function over **LAST 7 DAYS** (including ability to pay attention, awareness of surroundings, being coherent, unpredictable variation over course of day) **0**. No **1**. Yes	☐
		b. In the **LAST 90 DAYS** (or since last assessment if less than 90 days), client has become agitated or disoriented such that his or her safety is endangered or client requires protection by others **0**. No **1**. Yes	☐

SECTION C. COMMUNICATION/HEARING PATTERNS

1	HEARING	***(With hearing aid if used)*** **0**. *HEARS ADEQUATELY*—Normal talk, TV, phone, doorbell **1**. *MINIMAL DIFFICULTY*—When not in quiet setting **2**. *HEARS IN SPECIAL SITUATIONS ONLY*—Speaker has to adjust tonal quality and speak distinctly **3**. *HIGHLY IMPAIRED*—Absence of useful hearing	☐
2	MAKING SELF UNDER-STOOD (Expression)	***(Expressing information content—however able)*** **0**. *UNDERSTOOD*—Expresses ideas without difficulty **1**. *USUALLY UNDERSTOOD*—Difficulty finding words or finishing thoughts BUT if given time, little or no prompting required **2**. *OFTEN UNDERSTOOD*—Difficulty finding words or finishing thoughts, prompting usually required **3**. *SOMETIMES UNDERSTOOD*—Ability is limited to making concrete requests **4**. *RARELY/NEVER UNDERSTOOD*	☐
3	ABILITY TO UNDER-STAND OTHERS (Compre-hension)	***(Understands verbal information—however able)*** **0**. *UNDERSTANDS*—Clear comprehension **1**. *USUALLY UNDERSTANDS*—Misses some part/intent of message, BUT comprehends most conversation with little or no prompting **2**. *OFTEN UNDERSTANDS*—Misses some part/intent of message; with prompting can often comprehend conversation **3**. *SOMETIMES UNDERSTANDS*—Responds adequately to simple, direct communication **4**. *RARELY/NEVER UNDERSTANDS*	☐
4	COMMUNI-CATION DECLINE	Worsening in communication (making self understood or understanding others) as compared to status of **90 DAYS AGO** (or since last assessment if less than 90 days) **0**. No **1**. Yes	☐

SECTION D. VISION PATTERNS

1	VISION	***(Ability to see in adequate light and with glasses if used)*** **0**. *ADEQUATE*—Sees fine detail, including regular print in newspapers/books **1**. *IMPAIRED*—Sees large print, but no regular print in newspapers/books **2**. *MODERATELY IMPAIRED*—Limited vision; not able to see newspaper headlines, but can identify objects **3**. *HIGHLY IMPAIRED*—Object identification in question, but eyes appear to follow objects **4**. *SEVERELY IMPAIRED*—No vision or sees only light, colours, or shapes; eyes do not appear to follow objects	☐
2	VISUAL LIMITATION/ DIFFI-CULTIES	Saw halos or rings around lights, curtains over eyes, or flashes of lights **0**. No **1**. Yes	☐

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3	VISION DECLINE	Worsening of vision as compared to status of **90 DAYS AGO** (or since last assessment if less than 90 days) **0**. No **1**. Yes	☐

SECTION E. MOOD AND BEHAVIOUR PATTERNS

1	INDICATORS OF DEPRESSION, ANXIETY, SAD MOOD	***(Code for observed indicators irrespective of the assumed cause)*** **0**. Indicator not exhibited in last 3 days **1**. Exhibited 1–2 of last 3 days **2**. Exhibited on each of last 3 days	
		a. **A FEELING OF SADNESS OR BEING DEPRESSED**, that life is not worth living, that nothing matters, that he or she is of no use to anyone or would rather be dead	☐
		b. **PERSISTENT ANGER WITH SELF OR OTHERS**—e.g. easily annoyed, anger at care received	☐
		c. **EXPRESSIONS OF WHAT APPEAR TO BE UNREALISTIC FEARS**—e.g. fear of being abandoned, left alone, being with others	☐
		d. **REPETITIVE HEALTH COMPLAINTS**—e.g. persistently seeks medical attention, obsessive concern with body functions	☐
		e. **REPETITIVE ANXIOUS COMPLAINTS, CONCERNS**—e.g. persistently seeks attention/ reassurance regarding schedules, meals, laundry, clothing, relationship issues	☐
		f. **SAD, PAINED, WORRIED FACIAL EXPRESSIONS**—e.g. furrowed brows	☐
		g. **RECURRENT CRYING, TEARFULNESS**	☐
		h. **WITHDRAWAL FROM ACTIVITIES OF INTEREST**—e.g. no interest in long standing activities or being with family/friends	☐
		i. **REDUCED SOCIAL INTERACTION**	☐
2	MOOD DECLINE	Mood indicators have become worse as compared to status of **90 days ago** (or since last assessment if less than 90 days) **0**. No **1**. Yes	☐
3	BEHAVIOURAL SYMPTOMS	Instances when client exhibited behavioural symptoms. If EXHIBITED, ease of altering the symptom when it occurred. **0**. Did not occur in last 3 days **1**. Occurred, easily altered **2**. Occurred, not easily altered	
		a. **WANDERING**—Moved with no rational purpose, seemingly oblivious to needs or safety	☐
		b. **VERBALLY ABUSIVE BEHAVIOURAL SYMPTOMS**—Threatened, screamed at, cursed at others	☐
		c. **PHYSICALLY ABUSIVE BEHAVIOURAL SYMPTOMS**—Hit, shoved, scratched, sexually abused others	☐
		d. **SOCIALLY INAPPROPRIATE/ DISRUPTIVE BEHAVIOURAL SYMPTOMS**—Disruptive sounds, noisiness, screaming, self-abusive acts, sexual behaviour or disrobing in public, smears/ throws food/faeces, rummaging, repetitive behaviour, rises early and causes disruption	☐
		e. **RESISTS CARE**—Resisted taking medications/ injections, ADL assistance, eating, or changes in position	☐
4	CHANGES IN BEHAVIOUR SYMPTOMS	Behavioural symptoms have become worse or are less well tolerated by family as compared to **90 DAYS AGO** (or since last assessment if less than 90 days) **0**. No, or no change in behavioural symptoms or acceptance by family **1**. Yes	☐

SECTION F. SOCIAL FUNCTIONING

1	INVOLVEMENT	a. At ease interacting with others (e.g. likes to spend time with others) **0**. At ease **1**. Not at ease	☐
		b. Openly expresses conflict or anger with family/friends **0**. No **1**. Yes	☐
2	CHANGE IN SOCIAL ACTIVITIES	As compared to **90 DAYS AGO** (or since last assessment if less than 90 days ago), decline in the client's level of participation in social, religious, occupational or other preferred activities. IF THERE WAS A DECLINE, client distressed by this fact **0**. No decline **1**. Decline, not distressed **2**. Decline, distressed	☐
3	ISOLATION	a. Length of time client is alone during the day (morning and afternoon) **0**. Never or hardly ever **1**. About one hour **2**. Long periods of time—e.g. all morning **3**. All of the time	☐
		b. Client says or indicates that he/she feels lonely **0**. No **1**. Yes	☐

SECTION G. INFORMAL SUPPORT SERVICES

1	TWO KEY INFORMAL HELPERS Primary (A) and Secondary (B)	NAME OF PRIMARY AND SECONDARY HELPERS a. (Last/Family Name) b. (First Name) c. (Last/Family Name) d. (First Name)		
			(A) Pri	**(B) Sec**
		e. Lives with client **0**. Yes **1**. No **2**. No such helper (skip other items in the appropriate column)	☐	☐
		f. Relationship to client **0**. Child or child-in-law **1**. Spouse **2**. Other relative or whanau **3**. Friend/neighbour	☐	☐
		Areas of help: **0**. Yes **1**. No		
		g. Advice or emotional support	☐	☐
		h. IADL care	☐	☐
		i. ADL care	☐	☐
		If needed, willingness (with ability) to increase help: **0**. More than 2 hours per day **1**. 1–2 hours per day **2**. No		
		j. Emotional support	☐	☐
		k. IADL care	☐	☐
		l. ADL care	☐	☐
2	CAREGIVER STATUS	***(Check all that apply)***		
		A caregiver is unable to continue in caring activities—e.g. decline in the health of the caregiver makes it difficult to continue		a.
		Primary caregiver is not satisfied with support received from family and friends (e.g. other children of client)		b.
		Primary caregiver expresses feelings of distress, anger or depression		c.
		NONE OF ABOVE		d.

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3	EXTENT OF INFORMAL HELP (HOURS OF CARE, ROUNDED)	For instrumental and personal activities of daily living received over the **LAST 7 DAYS**, indicate extent of help from family, friends, and neighbours	**HOURS**
		a. Sum of time across five weekdays	
		b. Sum of time across two weekend days	

SECTION H. PHYSICAL FUNCTIONING:
- **IADL PERFORMANCE IN 7 DAYS**
- **ADL PERFORMANCE IN 3 DAYS**

1 IADL SELF-PERFORMANCE—Code for functioning in routine activities around the home or in the community during the **LAST 7 DAYS**.

(A) IADL SELF-PERFORMANCE CODE
(Code for client's performance during LAST 7 DAYS)
0. *INDEPENDENT*—did on own
1. *SOME HELP*—help some of the time
2. *FULL HELP*—performed with help all of the time
3. *BY OTHERS*—performed by others
8. *ACTIVITY DID NOT OCCUR*

(B) IADL DIFFICULTY CODE How difficult it is (or would it be) for client to do activity on own **0**. *NO DIFFICULTY* **1**. *SOME DIFFICULTY*—e.g. needs some help, is very slow, or fatigues **2**. *GREAT DIFFICULTY*—e.g. little or no involvement in the activity is possible	**(A)** Performance	**(B)** Difficulty
a. **MEAL PREPARATION**—How meals are prepared (e.g. planning meals, cooking, assembling ingredients, setting out food and utensils)		
b. **ORDINARY HOUSEWORK**—How ordinary work around the house is performed (e.g. doing dishes, dusting, making bed, tidying up, laundry)		
c. **MANAGING FINANCES**—How bills are paid, cheque book is balanced, household expenses are balanced		
d. **MANAGING MEDICATIONS**—How medications are managed (e.g. remembering to take medicines, opening bottles, taking correct drug dosages, giving injections, applying ointments)		
e. **PHONE USE**—How telephone calls are made or received (with assistive devices such as large numbers on telephone, amplification as needed)		
f. **SHOPPING**—How shopping is performed for food and household items (e.g. selecting items, managing money)		
g. **TRANSPORTATION**—How client travels by vehicle (e.g. gets to places beyond walking distance)		

2 ADL SELF-PERFORMANCE—The following address the client's physical functioning in routine personal activities of daily life, for example, dressing, eating, etc. during the **LAST 3 DAYS, considering all episodes of these activities.** For clients who performed an activity independently, be sure to determine and record whether others encouraged the activity or were present to supervise or oversee the activity **(Note—For bathing, code for most dependent single episode in LAST 7 DAYS.)**
0. *INDEPENDENT*—No help, setup, or oversight—OR—Help, setup, oversight provided only 1 or 2 times (with any task or subtask)
1. *SETUP HELP ONLY*—Article or device provided within reach of client 3 or more times
2. *SUPERVISION*—Oversight, encouragement or cueing provided 3 or more times during last 3 days—OR—Supervision (1 or more times) plus physical assistance provided only 1 or 2 times (for a total of 3 or more episodes of help or supervision)
3. *LIMITED ASSISTANCE*—Client highly involved in activity; received physical help in guided manoeuvring of limbs or other non-weight bearing assistance 3 or more times —OR— Combination of non-weight bearing help with more help provided only 1 or 2 times during period (for a total of 3 or more episodes of physical help)
4. *EXTENSIVE ASSISTANCE*—Client performed part of activity on own (50% or more of subtasks), but help of following type(s) were provided 3 or more times:
— Weight-bearing support—OR—
— Full performance by another during part (but not all) of last 3 days
5. *MAXIMAL ASSISTANCE*—Client involved and completed less than 50% of subtasks on own (includes 2+ person assist), received weight bearing help or full performance of certain subtasks 3 or more times
6. *TOTAL DEPENDENCE*—Full performance of activity by another
8. *ACTIVITY DID NOT OCCUR* (regardless of ability)

a. **MOBILITY IN BED**—Including moving to and from lying position, turning side to side, and positioning body while in bed.	
b. **TRANSFER**—Including moving to and between surfaces—to/from bed, chair, wheelchair, standing position. (Note—Excludes to/from bath/toilet)	
c. **MOBILITY IN HOME**—(Note—If in wheelchair, self-sufficiency once in chair.)	
d. **MOBILITY OUTSIDE OF HOME**—(Note—If in wheelchair, self-sufficiency once in chair.)	
e. **DRESSING UPPER BODY**—How client dresses and undresses **(street clothes, underwear)** above the waist, includes prostheses, orthotics, fasteners, pullovers, etc.	
f. **DRESSING LOWER BODY**—How client dresses and undresses **(street clothes, underwear)** from the waist down, includes prostheses, orthotics, belts, pants, skirts, shoes, and fasteners.	
g. **EATING**—Including taking in food by any method, including tube feedings.	
h. **TOILET USE**—Including using the toilet room or commode, bedpan, urinal, transferring on/off toilet, cleaning self after toilet use or incontinent episode, changing pad, managing any special devices required (ostomy or catheter), and adjusting clothes.	
i. **PERSONAL HYGIENE**—Including combing hair, brushing teeth, shaving, applying makeup, washing/drying face and hands (EXCLUDE baths and showers).	
j. **BATHING**—How client takes full-body bath/shower or sponge bath (**EXCLUDE** washing of back and hair). Includes how each part of body is bathed: arms, upper and lower legs, chest abdomen, perineal area. **Code for most dependent episode in LAST 7 DAYS.**	

3	ADL DECLINE	ADL status has become worse (i.e. now more impaired in self-performance) as compared to status **90 days ago** (or since last assessment if less than 90 days) **0**. No **1**. Yes	

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4	PRIMARY MODES OF MOBILITY	**0**. No assistive device **4**. Wheelchair **1**. Stick **8**. ACTIVITY DID NOT OCCUR **2**. Walker/crutch **3**. Mobility Scooter	
		a. Indoors	☐
		b. Outdoors	☐
5	STAIR CLIMBING	In the **last 3 days**, how client went up and down stairs (e.g. single or multiple steps, using handrail as needed). **0**. Up and down stairs without help **1**. Up and down stairs with help **2**. Not go up and down stairs	☐
6	STAMINA	a. In a typical week, during the **LAST 30 DAYS** (or since last assessment), code the number of days client usually went out of the house or building in which client lives (no matter how short a time period) **0**. Every day **2**. 1 day a week **1**. 2-6 days a week **3**. No days	☐
		b. Hours of physical activities in the last 3 days (e.g. walking, cleaning house, exercise) **0**. Two or more hours **1**. Less than two hours	☐
7	FUNCTIONAL POTENTIAL	***(Check all that apply)***	
		Client believes he/she capable of increased functional independence (ADL, IADL, mobility)	a. ☐
		Caregivers believe client is capable of increased functional independence (ADL, IADL, mobility)	b. ☐
		Good prospects of recovery from current disease or conditions, improved health status expected	c. ☐
		NONE OF ABOVE	d. ☐

SECTION I. CONTINENCE IN LAST 7 DAYS

1	BLADDER CONTINENCE	a. In **LAST 7 DAYS** (or since last assessment if less than 7 days) control of urinary bladder function (with appliances such as catheters or incontinence programme employed) (Note—if dribbles, volume insufficient to soak through underpants) **0**. *CONTINENT*—Complete control; DOES NOT USE any type of catheter or other urinary collection device **1**. *CONTINENT WITH CATHETER*—Complete control with use of any type of catheter or urinary collection device that does not leak urine **2**. *USUALLY CONTINENT*—Incontinent episodes once a week or less **3**. *OCCASIONALLY INCONTINENT*—Incontinent episodes 2 or more times a week but not daily **4**. *FREQUENTLY INCONTINENT*—Tends to be incontinent daily, but some control present **5**. *INCONTINENT*—Inadequate control, multiple daily episodes **8**. *DID NOT OCCUR*—No urine output from bladder	☐
		b. Worsening of bladder incontinence as compared to status **90 days ago** (or since last assessment if less than 90 days) **0**. No **1**. Yes	☐
2	BLADDER DEVICES	(**Check all that apply in LAST 7 DAYS**—or since last assessment if less than 7 days)	
		Use of pads or briefs to protect against wetness	a. ☐
		Use of an indwelling urinary catheter	b. ☐
		NONE OF ABOVE	c. ☐

3	BOWEL CONTINENCE	In **LAST 7 DAYS** (or since last assessment if less than 7 days), control of bowel movement (with appliance or bowel continence programme if employed) **0**. *CONTINENT*—Complete control; DOES NOT USE ostomy device **1**. *CONTINENT WITH OSTOMY*—Complete control with use of ostomy device that does not leak stool **2**. *USUALLY CONTINENT*—Bowel incontinent episodes less than weekly **3**. *OCCASIONALLY INCONTINENT*—Bowel incontinent episodes once a week **4**. *FREQUENTLY INCONTINENT*—Bowel incontinent episodes 2–3 times a week **5**. *INCONTINENT*—Bowel incontinent all (or almost all) of the time **8**. *DID NOT OCCUR*—No bowel movement during entire 7 day assessment period	☐

SECTION J. DISEASE DIAGNOSES

1 DISEASES

Disease/infection that doctor has indicated is present and affects client's status, requires treatment, or symptom management. Also include if disease is monitored by a home care professional or is the reason for a hospitalization in LAST 90 DAYS (or since last assessment if less than 90 days).
(**blank**) Not present
1. Present—not subject to focused treatment or monitoring by home care professional
2. Present—monitored or treated by home care professional
(If no disease in list, check **J1ac**, *None of Above*)

HEART/CIRCULATION

- a. Cerebrovascular accident (stroke) ☐
- b. Congestive heart failure ☐
- c. Coronary artery disease ☐
- d. Hypertension ☐
- e. Irregularly Irregular pulse ☐
- f. Peripheral vascular disease ☐

NEUROLOGICAL

- g. Alzheimer's ☐
- h. Dementia other than Alzheimer's disease ☐
- i. Head trauma ☐
- j. Hemiplegia/ hemiparesis ☐
- k. Multiple sclerosis ☐
- l. Parkinsonism ☐

MUSCULO-SKELETAL

- m. Arthritis ☐
- n. Hip fracture ☐
- o. Other fractures (e.g. wrist, vertebral) ☐
- p. Osteoporosis ☐

SENSES

- q. Cataract ☐
- r. Glaucoma ☐

PSYCHIATRIC/MOOD

- s. Any psychiatric diagnosis ☐

INFECTIONS

- t. HIV infection ☐
- u. Pneumonia ☐
- v. Tuberculosis ☐
- w. Urinary tract infection (**in LAST 30 DAYS**) ☐

OTHER DISEASES

- x. Cancer (in past 5 years) not including skin cancer ☐
- y. Diabetes ☐
- z. Emphysema/ COPD/ asthma ☐
- aa. Renal Failure ☐
- ab. Thyroid disease (hyper or hypo) ☐
- ac. *NONE OF ABOVE* ☐

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2	OTHER CURRENT OR MORE DETAILED DIAGNOSES AND ICD-10-CA CODES	a.	
		b.	
		c.	
		d.	

SECTION K. HEALTH CONDITIONS AND PREVENTIVE HEALTH MEASURES

1	PREVENTIVE HEALTH (PAST TWO YEARS)	**(Check all that apply—in PAST 2 YEARS)**				
		Blood pressure measured	a.	IF FEMALE: Received breast examination or mammography	d.	
		Received influenza vaccination	b.			
		Test for blood in stool or screening endoscopy	c.	*NONE OF ABOVE*	e.	
2	PROBLEM CONDITIONS PRESENT ON 2 OR MORE DAYS	**(Check all that were present on at least 2 of the last 3 days)**				
		Diarrhoea	a.	Loss of appetite	d.	
		Difficulty urinating or urinating 3 or more times at night	b.	Vomiting	e.	
				NONE OF ABOVE	f.	
		Fever	c.			
3	PROBLEM CONDITIONS	**(Check all present at any point during last 3 days)**				
		PHYSICAL HEALTH		**MENTAL HEALTH**		
		Chest pain/pressure at rest or on exertion	a.	Delusions	f.	
				Hallucinations	g.	
		No bowel movement in 3 days	b.	*NONE OF ABOVE*	h.	
		Dizziness or lightheadedness	c.			
		Oedema	d.			
		Shortness of breath	e.			
4	PAIN	a. Frequency with which client complains or shows evidence of pain **0**. No pain (score b–e as 0) **1**. Less than daily **2**. Daily—one period **3**. Daily—multiple periods (e.g. morning and evening)				
		b. Intensity of pain **0**. No pain **1**. Mild **2**. Moderate **3**. Severe **4**. Times when pain is horrible or excruciating				
		c. From client's point of view, pain intensity disrupts usual activities **0**. No **1**. Yes				
		d. Character of pain **0**. No pain **1**. Localized—single site **2**. Multiple sites				
		e. From client's point of view, medications adequately control pain **0**. Yes or no pain **1**. Medications do not adequately control pain **2**. Pain present, medication not taken				
5	FALLS FREQUENCY	Number of times fell in **LAST 90 DAYS** (or since last assessment if less than 90 days). If none, code "**0**", if more than 9, code "**9**".				

6	DANGER OF FALL	**(Code for danger of falling)** **0**. No **1**. Yes				
		a. Unsteady gait				
		b. Client limits going outdoors due to fear of falling (e.g. stopped using bus, goes out only with others)				
7	LIFESTYLE (Drinking/ Smoking)	**(Code for drinking or smoking)** **0**. No **1**. Yes				
		a. **In the LAST 90 DAYS** (or since last assessment if less than 90 days), client felt the need or was told by others to cut down on drinking, or others were concerned with client's drinking				
		b. **In the LAST 90 DAYS** (or since last assessment if less than 90 days), client had to have a drink first thing in the morning to steady nerves (i.e. an "eye opener") or has been in trouble because of drinking				
		c. Smoked or chewed tobacco daily				
8	HEALTH STATUS INDICATORS	**(Check all that apply)**				
		Client feels he/she is poor health (when asked)	a.	Treatments changed in **LAST 30 DAYS** (or since last assessment if less than 30 days) because of a new acute episode or condition	d.	
		Has conditions or diseases that make cognition, ADL, mood, or behaviour patterns unstable (fluctuations, precarious, or deteriorating)	b.	Prognosis of less than six months to live—e.g.	e.	
		Experiencing a flare-up of a recurrent or chronic problem	c.	Physician/GP has told client or client's family that client has end-stage disease		
				NONE OF ABOVE	f.	
9	OTHER STATUS INDICATORS	**(Check all that apply)**				
		Fearful of a family member or caregiver	a.	Physically restrained (e.g. limbs restrained, used bed rails, constrained to chair when sitting)	e.	
		Unusually poor hygiene	b.	*NONE OF ABOVE*	f.	
		Unexplained injuries, broken bones, or burns	c.			
		Neglected, abused, or mistreated	d.			

SECTION L. NUTRITION/HYDRATION STATUS

1	WEIGHT	**(Code for weight items)** **0**. No **1**. Yes	
		a. Unintended weight loss of 5% or more in the **LAST 30 DAYS** (or 10% or more in the **LAST 180 DAYS**)	
		b. Severe malnutrition (cachexia)	
		c. Morbid obesity	
2	CONSUMP-TION	**(Code for consumption)** **0**. No **1**. Yes	
		a. In at least 2 of the last 3 days, ate one or fewer meals a day	
		b. **In last 3 days**, noticeable decrease in the amount of food client usually eats or fluids usually consumes	
		c. Insufficient fluid—did not consume all/almost all fluids during last 3 days	
		d. Enteral tube feeding	

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3	SWALLOW-ING	**0**. *NORMAL*—Safe and efficient swallowing of all diet consistencies **1**. *REQUIRES DIET MODIFICATION TO SWALLOW SOLID FOODS* (mechanical diet or able to ingest specific foods only) **2**. *REQUIRES MODIFICATION TO SWALLOW SOLID FOODS AND LIQUIDS* (puree, thickened liquids) **3**. *COMBINED ORAL AND TUBE FEEDING* **4**. *NO ORAL INTAKE (NPO)*	

SECTION M. DENTAL STATUS (ORAL HEALTH)

1	ORAL STATUS	**(Check all that apply)**	
		Problem chewing (e.g. poor mastication, immobile jaw, surgical resection, decreased sensation/motor control, pain while eating)	a.
		Mouth is "dry" when eating a meal	b.
		Problem brushing teeth or dentures	c.
		NONE OF ABOVE	d.

SECTION N. SKIN CONDITION

1	SKIN PROBLEMS	Any trouble skin conditions or changes in skin condition (e.g. burns, bruises, rashes, itchiness, body lice, scabies) **0**. No **1**. Yes	
2	ULCERS (Pressure/ Stasis)	Presence of an ulcer anywhere on the body. Ulcers include any area of persistent skin redness (Stage 1); partial loss of skin layers (Stage 2); deep craters in the skin (Stage 3); breaks in skin exposing muscle or bone (Stage 4). [**Code 0 if no ulcer, otherwise record the highest ulcer stage (Stage 1–4).**]	
		a. **Pressure ulcer**—any lesion caused by pressure, shear forces, resulting in damage of underlying tissues	
		b. **Stasis ulcer**—open lesion caused by poor circulation in the lower extremities	
3	OTHER SKIN PROBLEMS REQUIRING TREATMENT	**(Check all that apply)**	
		Burns (second or third degree)	a.
		Open lesions other than ulcers, rashes, cuts (e.g. cancer)	b.
		Skin tears or cuts	c.
		Surgical wound	d.
		Corns, calluses, structural problems, infections, fungi	e.
		NONE OF ABOVE	f.
4	HISTORY OF RESOLVED PRESSURE ULCERS	Client previously had (at any time) or has an ulcer anywhere on the body. **0**. No **1**. Yes	
5	WOUND/ ULCER CARE	**(Check for formal care in LAST 7 DAYS)**	
		Antibiotics, systemic or topical	a.
		Dressings	b.
		Surgical wound care	c.
		Other wound/ulcer care (e.g. pressure relieving device, nutrition, turning, debridement)	d.
		NONE OF ABOVE	e.

SECTION O. ENVIRONMENTAL ASSESSMENT

1	HOME ENVIRON-MENT	**[Check any of following that make home environment hazardous or uninhabitable (if none apply, check NONE OF ABOVE, if temporarily in institution, base assessment on home visit)]**	
		Lighting in evening (including inadequate or no lighting in living room, sleeping room, kitchen, toilet, corridors)	a.
		Flooring and carpeting (e.g. holes in floor, electric wires where client walks, mats/rugs)	b.
		Bathroom and toilet room (e.g. non-operating toilet, leaking pipes, no rails though needed, slippery bathtub, outside toilet)	c.
		Kitchen (e.g. dangerous stove, inoperative refrigerator, infestation by rats or bugs)	d.
		Heating and cooling (e.g. too hot in summer, too cold in winter, wood burner/stove in a home with an asthmatic)	e.
		Personal safety (e.g. fear of violence, safety problem in going to mail/letter box or visiting neighbours, heavy traffic in street)	f.
		Access to home (e.g. difficulty entering/leaving home)	g.
		Access to rooms in house (e.g. unable to climb stairs)	h.
		NONE OF ABOVE	i.
2	LIVING ARRANGE-MENT	a. As compared to 90 DAYS AGO (or since last assessment), client now lives with other persons—e.g. moved in with another person, other moved in with client **0**. No **1**. Yes	
		b. Client or primary caregiver feels that client would be better off in another living environment **0**. No **1**. Client only **2**. Caregiver only **3**. Client and caregiver	

SECTION P. SERVICE UTILIZATION (IN LAST 7 DAYS)

1	FORMAL CARE (Minutes rounded to even 10 minutes)	Extent of care or care management in **LAST 7 DAYS** (or since last assessment if less than 7 days) since involving			
		#of:	**(A) Days**	**(B) Hours**	**(C) Mins**
		a. Personal care/support services			
		b. Visiting nurses			
		c. Household management services			
		d. Meals			
		e. Volunteer services			
		f. Physiotherapy			
		g. Occupational therapy			
		h. Speech & Lang therapy			
		i. Day care or day hospital			
		j. Social worker			

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2	SPECIAL TREATMENTS, THERAPIES, PROGRAMMES	Special treatments, therapies, and programmes received or scheduled during the **LAST 7 DAYS** (or since last assessment if less than 7 days) and adherence to the required schedule. Includes services received in the home or on an outpatient basis. (**Blank**) Not applicable **1**. Scheduled, full adherence as prescribed **2**. Scheduled, partial adherence **3**. Scheduled, not received (If no treatments provided, check *NONE OF ABOVE* **P2aa**)	
		RESPIRATORY TREATMENTS	**THERAPIES**
		a. Oxygen ☐	n. Exercise therapy ☐
		b. Respirator for assistive breathing ☐	o. Occupational therapy ☐
		c. All other respiratory treatments ☐	p. Physiotherapy ☐
		OTHER TREATMENTS	**PROGRAMMES**
		d. Alcohol/drug treatment programme ☐	q. Day centre ☐
			r. Day hospital ☐
		e. Blood transfusion(s) ☐	s. Hospice care ☐
		f. Chemotherapy ☐	t. Physician/GP or clinic visit ☐
		g. Dialysis ☐	u. Respite care ☐
		h. IV infusion—central ☐	**SPECIAL PROCEDURES DONE IN HOME**
		i. IV infusion—peripheral ☐	v. Daily nurse monitoring (e.g. ECG, urinary output) ☐
		j. Medication by injection ☐	
		k. Ostomy care ☐	w. Nurse monitoring less than daily ☐
		l. Radiation ☐	x. Medical alert bracelet or electronic security alert ☐
		m. Tracheostomy care ☐	y. Skin treatment ☐
			z. Special diet ☐
			aa. *NONE OF ABOVE* ☐
3	MANAGEMENT OF EQUIPMENT (**In Last 3 Days**)	**Management codes:** **0**. Not used **1**. Managed on own **2**. Managed on own if laid out or with verbal reminders **3**. Partially performed by others **4**. Fully performed by others	
		a. Oxygen	☐
		b. IV	☐
		c. Catheter	☐
		d. Ostomy	☐
4	VISITS IN LAST 90 DAYS OR SINCE LAST ASSESSMENT	**Enter "0" if none, if more than 9, code "9"**	
		a. Number of times ADMITTED TO HOSPITAL **with** an overnight stay	☐
		b. Number of times VISITED EMERGENCY ROOM **without** an overnight stay	☐
		c. EMERGENT CARE—including unscheduled nursing, Physician/GP, or therapeutic visits to office or home	☐

5	TREATMENT GOALS	Any treatment goals that have been met in the **LAST 90 DAYS** (or since last assessment if less than 90 days)? **0**. No **1**. Yes	☐
6	OVERALL CHANGE IN CARE NEEDS	Overall self-sufficiency has changed significantly as compared to status of **90 DAYS AGO** (or since last assessment if less than 90 days) **0**. No change **1**. Improved—receives fewer supports **2**. Deteriorated—receives more support	☐
7	TRADE OFFS	Because of limited funds, during the last month, client made trade-offs among purchasing any of the following: prescribed medications, sufficient home heat, necessary Physician/GP care, adequate food, home care **0**. No **1**. Yes	☐

SECTION Q. MEDICATIONS

1	NUMBER OF MEDICATIONS	Record the number of different medicines (prescriptions and over the counter), including eye drops, taken regularly or on an occasional basis in the **LAST 7 DAYS** (or since last assessment) *[If none, code "**0**", if more than 9, code "**9**".]*	☐
2	RECEIPT OF PSYCHOTROPIC MEDICATION	Psychotropic medications taken in the **LAST 7 DAYS** (or since last assessment) [Note—Review client's medications with the list that applies to the following categories.] **0**. No **1**. Yes	
		a. Antipsychotic/neuroleptic	☐
		b. Anxiolytic	☐
		c. Antidepressant	☐
		d. Hypnotic	☐
3	MEDICAL OVERSIGHT	Physician/GP reviewed client's medications as a whole in **LAST 180 DAYS** (or since last assessment) **0**. Discussed with at least one Physician/GP (or no medication taken) **1**. No single Physician/GP reviewed all medications	☐
4	COMPLIANCE/ ADHERENCE WITH MEDICATIONS	Compliant all or most of time with **medications** prescribed by Physician/GP (both during and between therapy visits) in **LAST 7 DAYS** **0**. Always compliant **1**. Compliant 80% of time or more **2**. Compliant less than 80% of time, including failure to purchase prescribed medications **3**. *NO MEDICATIONS PRESCRIBED*	☐

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5	LIST OF ALL MEDICATIONS	List prescribed and nonprescribed medications taken in **LAST 7 DAYS** (or since last assessment) a. **Name**: Record the name of the medication. b. **Dose**: Record the dosage. c. **Form**: Code the route of Administration using the following list: **1**. By mouth (PO) **6**. Rectal (R) **2**. Sub lingual (SL) **7**. Topical **3**. Intramuscular (IM) **8**. Inhalation **4**. Intravenous (IV) **9**. Enteral tube **5**. Subcutaneous (SQ) **10**. Other d. **Freq**: Code the number of times per day, week, or month the medication is administered using the following list: ***PRN***. As necessary ***QOD***. Every other day ***QH***. Every hour ***QW***. Once each week ***Q2H***. Every two hours ***2W***. Two times every week ***Q3H***. Every three hours ***3W***. Three times every week ***Q4H***. Every four hours ***4W***. Four times every week ***Q6H***. Every six hours ***5W***. Five times every week ***Q8H***. Every eight hours ***6W***. Six times every week ***QD***. Once daily ***1M***. Once every month ***HS***. Bedtime ***2M***. Twice every month ***BID***. Two times daily (includes every 12 hrs) ***C***. Continuous ***TID***. Three times daily ***O***. Other ***QID***. Four times daily ***5D***. Five times daily e. **If PRN**: record number of doses taken in last 7 days.

	a. Name	b. Dose	c. Form	d. Freq	e. If PRN # of times taken in last 7 days
a.					
b.					
c.					
d.					
e.					
f.					
g.					
h.					
i.					
j.					
k.					

☐ = when box blank, must enter number or letter [a.] = when letter in box, check if condition applies

SECTION R. ASSESSMENT INFORMATION				
1	SIGNATURES OF PERSONS COMPLETING THE ASSESSMENT			
	a. Signature of Assessment Coordinator			
	b. Title of Assessment Coordinator			
	c. Date Assessment Coordinator signed as complete ☐☐ Day ☐☐ Month ☐☐☐☐ Year			
	Other Signatures	Title	Sections	Date
	d.			
	e.			
	f.			
	g.			
	h.			
	i.			

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